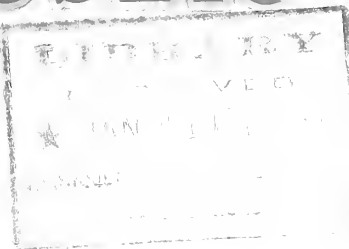


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AGGELER & MUSSER SEED CO. LOS ANGELES



TWENTY
SIXTH
ANNUAL
CATALOG
1919

HOW TO ORDER BY MAIL

YOUR NAME AND ADDRESS.—Be very sure that your name and address are written very plainly on each order. We frequently have orders where either name is not given or address omitted. Also give plainly the R. F. D. number and box, or the street address. We acknowledge all orders by a post-card if not filled immediately. If such acknowledgment is not received, or if the order does not follow at once, write us about it.

CASH WITH ORDER.—The proper way is to send remittance in full to cover order and postage. We send orders C. O. D. only if 25% of the amount of order is enclosed. Plants we never send out C. O. D.

REMITTANCES should be made by Post-Office Money Order, Express Money Order, or by Check. For amounts up to one dollar, clean, unused postage stamps will be accepted. Coin should not be sent by mail. Checks on local banks may be sent, which will be a great convenience to many customers. Checks from outside the state of California will be collected before the goods are shipped. Therefore if you would avoid delay, send bank draft or postal money order. We do not accept responsibility for orders which never reach us. We will be responsible for the safe arrival of the merchandise.

SHIPPING—We will use our best judgment as to the best way of sending orders when specific directions are not given. On large "postpaid" orders it is better to have them go by express, if your town is on a railroad—it is safer. We prepay express charges on merchandise quoted "postpaid." If special directions in shipping are needed, send them explicitly, and where express or freight office is different from post-office, so state in space on our order sheet.

SEEDS BY MAIL—We send by mail or by express prepaid, all orders for flower seeds, and for vegetable seeds (except beans, corn and peas). We do not pay postage or express charges on onion sets, field seeds, clovers, grasses, bird seeds, beans, corn, peas, tools or plants in large quantities; but we do pay them on other vegetable and flower seeds. Correspondents in foreign countries should add a sufficient amount for postage at the rate of 12 cents per pound.

THE PARCEL POST APPLIES TO SEED. Postal rates are as follows. Owing to the convenience of having mail brought to your door by the rural delivery system, it is well to take advantage of the low rates.

20 pounds anywhere within the city limits of Los Angeles for 15c.
20 pounds one hundred and fifty miles 24c, and 1c for each additional pound up to 50 pounds.
Nothing heavier than 20 pounds may be mailed farther than 150 miles in one package.
The Eighth Zone includes Mexico and Canada.

ZONE RATES—When it is required that postage be added to the purchase price of any commodity, note the distance you are from Los Angeles, see in which Zone you live. It is then easy to estimate the exact amount of postage required, or ask your postmaster.

DOMESTIC PARCEL POST RATES On Seeds, Plants, Bulbs, Books, Tools, etc. within the U. S. and Possessions										First Pound or Fraction	Each Additional Pound or Fraction
First Zone, Los Angeles and within 50 miles of Los Angeles										5c	1c
Second Zone										5c	1c
Third Zone										6c	2c
Fourth Zone										7c	4c
Fifth Zone										8c	6c
Sixth Zone										9c	8c
Seventh Zone										11c	10c
Eighth Zone										12c	12c

FOR PARCELS WEIGHING 8 OUNCES OR LESS, containing seeds, bulbs or books only, the rate of postage to all zones is 1 cent for two ounces or fraction. (Over 8 ounces the parcel post rates apply.)

FOR PARCELS CONTAINING FOURTH CLASS MATTER—other than the above—up to four ounces is permitted to all zones at 1 cent per ounce. (Over 4 ounces the above zone rates apply.)

NON-WARRANTY: Note—There are so many contingencies to be encountered in growing plants from seed and in setting out plants that are dependent on the weather and other conditions over which we have no control, that success in planting is not altogether dependent on the seed or plant. We will send out only seed which we believe will grow and produce the kind of plant and variety represented, but:

Aggeler & Musser Seed Co. give no warranty, expressed or implied, as to description, quality, productiveness, or any other matter of any seeds, bulbs, plants or trees they send out, and they will not be responsible in any way for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

Roll of Honor

C. O. BROWN, Capt.

OLIVER C. BLAKE, Corp.

F. H. RATHER

E. E. SODERBERG, Sergeant

ARCHIE POSTELL

GEO. W. SHORT

PAUL KEMP

E. C. BRINKMEYER

W. D. FRASER

B. F. WORTHINGTON

LESLIE T. COLLINS

HARRY ISLEIB

L. BAILEY

The greatest privilege of all time has been to those who fought for the new-born and better world. No disgrace is contemptible enough to measure the "slacker."

Many of our employees have entered the Service and it is gratifying to know they enlisted with a full sense of duty; not one hesitated to do it.

THEY HAVE GLORIOUSLY ACCOMPLISHED THAT FOR WHICH THEY HAVE ENLISTED—THEY HAVE MADE THE WORLD SAFE FOR DEMOCRACY.

Peace

The Heroine

See front cover page

The Woman's Land Army of America is a patriotic organization with offices at 427-428 Chamber of Commerce Bldg, Los Angeles.

Of the 800 women sent out to work for farmers and fruit growers 95% have made good.

The Woman's Land Army is here to stay.



W. B. Early
Our Secretary and Treasurer
since 1905

E. A. Aggeler
Our Vice President and Manager
since our reorganization in 1905.

H. L. Musser
Our President since our
incorporation in 1896

Twenty-Sixth Annual Catalog of the **AGGELER & MUSSER SEED COMPANY**

ESTABLISHED, 1893—INCORPORATED, 1896

Twenty-six years ago we began an exclusive seed business at 113 North Main Street, which place was then in the heart of the business district of Los Angeles. Our business grew with the general prosperity of the country, and in 1907 we leased the place next door, and two years later added more space.

We yet needed better shipping facilities, therefore in 1914 we leased the big warehouse at 6th and Alameda and moved our offices and mail order department to the warehouse.



MILL AND WAREHOUSE AT SIXTH AND ALAMEDA

This we will continue to occupy using it for milling, cleaning and warehousing. Our cleaning facilities are up to date, equal to the best on the coast. When you buy our seed you get 100% seed, no dirt nor broken grains.

AGGELER & MUSSER SEED CO., 620 South Spring Street
Branch Store: 767 Central Avenue : Los Angeles, California

Phones: Sunset, Main 4545: Home 60875

The trend of business has been steadily southward until North Main Street is far from the paths of travel.

We have now leased 1800 sq. ft. of floor space in the **Meredith Building, 616-622 South Spring Street.**

The Retail Department occupies all of the first floor, a space of forty feet front and one hundred and twenty feet deep. The offices are located on the second floor front requiring a space of forty-five feet square.

The Mail-order Department is also located on the second floor, space, eighty feet by eighty feet, and also requires the entire third floor, eighty by one hundred feet. It is here where the garden seeds are stored, it is here the millions of packets are filled by a machine having a capacity of 30,000 packets per day. Here all peas, beans and other seeds are tested for germination, cleaned, re-cleaned and hand-picked ready for distribution over the entire country.

before purchasing his seed. The knowledge gained thereby will be of great value in the selection of seed.

Seedsmen have little trouble with professional gardeners; it is the amateur gardener who makes the trouble. It matters not to him if 99 professional gardeners succeed with the same seed, his failure is attributed to the seed regardless of cultural conditions.

This catalog insures success if one will but study it and follow instructions.

Not a season goes by but that someone discovers some excellent vegetable at the market bringing Big Money to the grower, and finding out the seed was purchased of the Aggeler & Musser Seed Company. They censure us for not "Putting them wise." To this we can only reply, "Read the Catalog." We go to the expense and no little trouble to put this catalog into your home expecting you will at least read the subjects in which you are interested. Therefore, if you are a **Melon Grower** read the pages devoted to that subject. If you are a **Lettuce grower**, an **Onion grower**, a **Potato or Sweet Potato grower**, a **Celery**, **Cabbage**, or **Caiflower grower**, read the pages devoted to these crops in which you are interested. If you will do so you will not miss these Money Makers.

By the way, the Winter Melon described on Page 41 will prove a big money maker to the first man who will plant an acreage big enough to attract attention. The same may be said of the Golden Hybrid described on page 37.

How We Have Met This Obligation

WE HAVE made Los Angeles and Southern California famous for the excellence of their vegetables.

WE HAVE by our creations and introductions, added millions of dollars to the revenue of the growers and shippers of the entire Southwest.

WE HAVE, through our medium of education, contributed more to the success of the homesteader and newcomer than any other agency. We have distributed without charge more than 100,000 Garden Manuals, besides as many catalogues each year.

WE HAVE, through our efforts, made Los Angeles the best fed community in America. Her vegetables and fruits are standard the world over.

WE HAVE, by the excellent merit of our introductions, been instrumental in building up great industries in canning and shipping.

WE HAVE added much to the wealth of California ranchers, by growing at home many thousands of dollars worth of seeds that hitherto were imported.

WE HAVE made friends; and through our friends we have built up a business that gives steady employment to a hundred people, and distributes more than half a million dollars every year to growers throughout the Southwest, a business that requires each year an increased amount of floor space, and last year paid for postage alone more than \$12,000.

WE HAVE always been leaders in our line of business as indicated by the many **BIG MONEY MAKERS** listed in this book.



This building is located just South of Sixth, on Spring Streets, One block from the Huntington Building. Convenient to the rural population who daily pass to and from the Pacific Electric Depot.

The floor space of our warehouse that we are retaining at Sixth and Alameda Streets is 30,000 square feet. The floor space of our new location at 616 to 622 South Spring Street is 19,200 square feet. The floor space of the market store is 9,600 square feet, making a total of 58,800 square feet, upon which to transact business, besides using nearly as much more space for storing our goods in public warehouses.

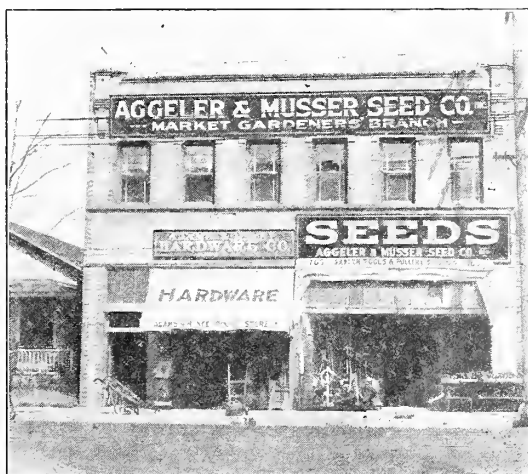
The Moral and Philanthropic Obligation of the Seedsman

It is the moral obligation of every man selling seeds to be so well informed concerning his business that he can advise his customers what varieties of seeds are best suited to the particular requirements of each customer; in short, "What to Plant, and when to plant it"; also, "regarding soil, climate and market."

Every Seedsman, or Clerk, selling seeds, should be educated to know, as far as it is possible, each variety by appearance. Such knowledge would tend to avoid errors and would prevent many costly mistakes.

Every Clerk in our store is educated to assist the customer in his selection, and should a customer ask for seeds not seasonable, the clerk is instructed to call attention to it and suggest some variety better suited to the time.

Every Customer intending to plant one-fourth acre, or more, should obtain this seed catalog and study it carefully



Our Market Branch Store is at 767 South Central Avenue, opposite the Terminal Market. It is a busy place in the early morning market hours requiring six experienced men under the capable management of Louis Worthington and Roy Thacker.



OUR OFFICE

The personnel of our office has materially changed. Many have joined the colors. It gives us pleasure to add that they have gone cheerfully and with enthusiasm anxious to do their full duty wherever it leads.

Our office force continues under the capable management of Mr. W. B. Early, who has been with us since 1905. He has the direction of an average of twenty assistants, experts in their particular line of work.

These clerks accomplish the enormous amount of work required with the aid of the Mechanical Bookkeeping Machine, Comptometer, Adding Machine, Stenotype, Dictaphone, Typewriter, Addressing Machine and Multigraph, all time and labor saving machinery.

Accommodation Department

Last year we inserted in our catalog an invitation to list with us any parcel of real estate you may have for rent. As a result we have placed several thousand acres. In this work we merely acquaint the would-be renter with the owner but we do not pretend to make any recommendations unless from actual knowledge. This department has proven to be very satisfactory.

Marketing Bureau

We are so well acquainted with our customers that when shippers want certain produce, we can usually put them in touch with the grower. On the other hand we have found

buyers for many growers (particularly newcomers) who were not familiar with the marketing end of their business. It is our pleasure to be of as much service to our customers as possible. The service of our Information Department is voluntary and without charge.

It has been our pleasure during the past year to be of much assistance in bringing the grower and buyer together.

Information Department

The catalog contains all necessary information so that the amateur who reads cannot but succeed, but many inquiries come to us which indicate the writer has not read, or, having read, prefers to have pointed information direct from us, or further information on certain subjects. Therefore, the establishment of our Information Department where the entire time of a competent person and stenographer are devoted exclusively to the answering of letters of inquiry. This department has worked over-time, which indicates that it is much appreciated.

So closely is the name of Aggeler & Musser Seed Company associated with the development and prosperity of the Southwest, and Southern California in particular, that the name cannot be mentioned without recalling to some interested person some one of the following facts:

The Aggeler & Musser Seed Company gave us the **White Rose Potato**, **Pearl Cauliflower**, **Winnigstadt Cabbage**, **Los Angeles Market Lettuce**, **Anaheim Chili Pepper**, **Pluminto**, **Casabas**, the **Tepary** and **Pinto Beans**, each of these are worth more than \$1,000,000 annually to the grower and shipper.



A. Isleib

W. R. Worthington

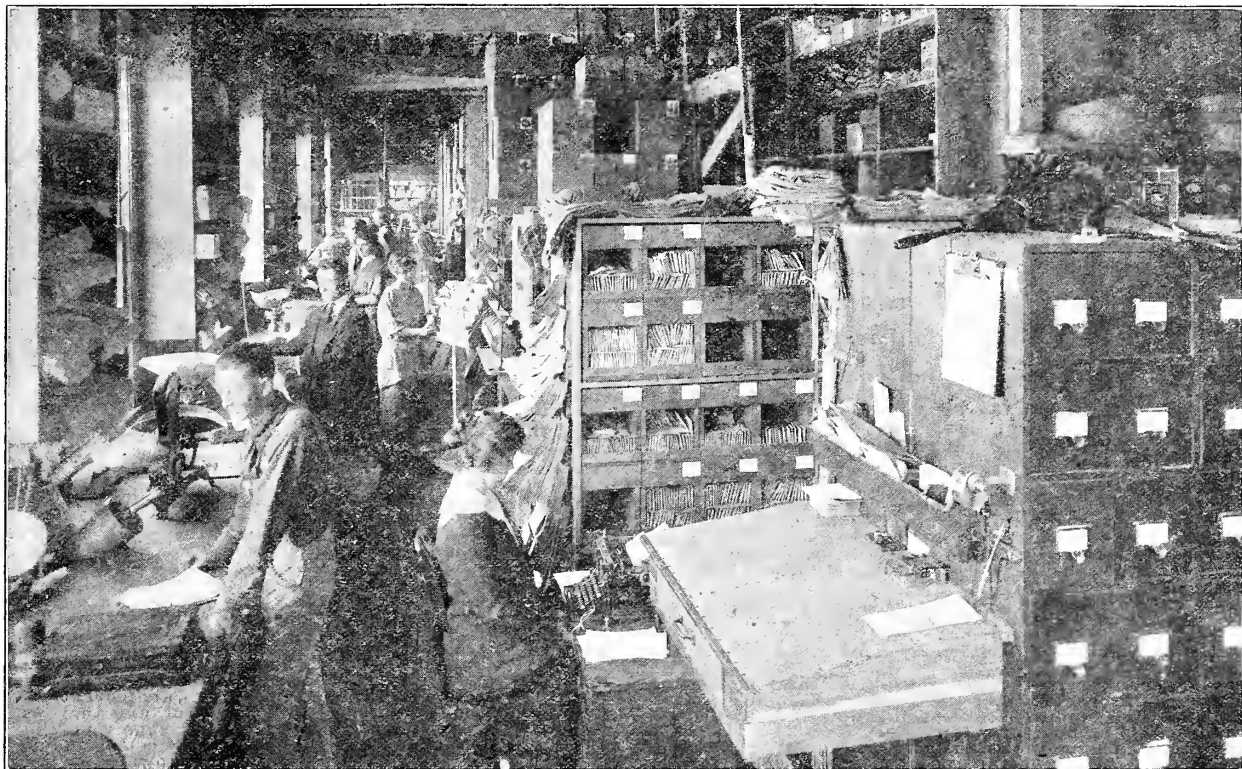
U. S. Webb

NOTICE—TO DEALERS—NOTICE

Our wholesale department is ably directed from the office by Mr. W. B. Early, who has inaugurated a policy of uniformly fair methods with all dealers. He is ably assisted

by the solicitors whose pictures appear above.

Have your order ready, when you see them coming into your place of business.



Mail Order Department

Mail Order Department

Managed by Mrs. M. Gaylord, with ample corps of assistants, whose duty it is to serve promptly and accurately, very often as many as a thousand customers a day.

With a packet-filling machine having a capacity of 30,000 packets per day, they put up more than a million packets each year. To do this without error requires extreme system and efficiency.

Seed Testing

A. I. Tunnison, who with a score of assistants, has charge of the distribution and testing of all seeds. His records are up-to-date so that at a moment's notice he can give the germination of any seeds that we have.

Seed Cleaning

Wm. Turner, with his assistants, attends to the cleaning and milling of all field seeds as they come into the house before they are placed in stock.

Should you at any time receive seeds which have not been recleaned, advise us at once, as there is no excuse for sending out un-clean seeds with our up-to-date machinery for cleaning all kinds of seeds.

A Call Counter

Read This

We have inaugurated what we have termed a Call Counter for the accommodation of the rural population who come to town either for business or to shop. They have not always time to wait for the filling of their orders. Therefore:

Leave Your Order When You Come to Town, It Will Be Ready When You Call For It

A competent person will be in charge of this counter ready and willing to assist you, should you be in doubt as to what you want.

You can order by phone, 60875 or Main 4545, ask for the Call Counter, give your order and state what hour you will call for it.

Or order by mail to avoid delay, addressing Call Counter, Aggeler and Musser Seed Company, Los Angeles, Cal. State just what day and hour you will call.

You will find this method particularly convenient when plants are wanted. They will be ready when you call, thus saving much valuable time.

Remember the Call Counter and take advantage of it.

This Seed Catalog commemorates our Twenty-sixth Anniversary; therefore, we have made of it an encyclopedia of the ranch and garden which at this time is of great importance. This catalog is so explicit and complete in its instructions that the amateur can make no mistake.

This seed catalog contains cultural instructions which, if studied carefully, would guide almost any amateur to success. The information tabulated in this catalog, answers more than 1000 questions, if the reader will but study it carefully.

With each variety of seed listed, there is sufficient instruction for the best culture of that variety.

Read this catalog and learn what varieties are best suited to your individual conditions,—your soil, climate, irrigation, purpose, and market.

One Thousand Questions Answered

This catalog contains full instructions necessary to make a home or a market garden if you will read it carefully and refer to the several tables for the information you wish.

The amateur market gardener will find with each subject the information needed to help select the proper variety to suit the season, and a reference to the tables on page 10 will give him further information concerning the planting and value of various crops.

The rancher, by reading any subject which interests him will receive much help in the selection of varieties and many hints on the care of his crop.

But, if, after reading the catalog, there is further information, or more specific information wanted, do not hesitate to write our information department.

This Department, together with our catalog is intended to save the amateur, the homesteader and the new-comer much of that preliminary experimental work which often means failure and bankruptcy.

The information that has come to us during our twenty-six years of active work among the growers throughout the southwest has been chronicled each year in our annual catalog, so that he who will read carefully cannot fail because the information is complete from the preparation of the soil to the marketing of the crop.

The seedsman's burden does not end with the testing and introduction of new things, but they must educate the amateur, teaching them "What to plant and when and how to plant it"; consideration of soil, climate, cultivation and irrigation.

Get Ready For Big Business

With Peace, comes Prosperity such as the world has never known. With entire Europe exhausted of food and raw material for every description, with America the earliest and nearest relief and with new ships for transportation, it is evident that it is up to the American farmer to get busy for the greatest era of Prosperity in all history.



A Big War Garden

California has become the largest War Garden in all history. When the government called for production, California in one year went "Over the Top" with beans, potatoes, onions, turnips, cabbage, cauliflower and met all requirements for other vegetables, met all local needs for grain and forage, and produced cattle in greater abundance than all the facilities of Uncle Sam's great railroad system could handle.

California seed growers had such enormous acreage planted to diversified seed crops, that a survey by the government showed such a probable over-production of nearly all varieties that when the report was published it showed an ample supply in prospect of everything with a few notable exceptions as seeds of cabbage, turnip and salsify which items are very short.

But since this survey has been taken, excessive heat and early rains have so materially changed the situation that instead of an over-production there is indeed a great shortage in many varieties, all of which must trend to maintain high prices.

War has materially changed the agricultural customs of old time conditions. Neither the grower or shipper can anticipate market conditions except to know there will be a demand for his produce at a fair price.

New regulations are constantly upsetting all calculations. For instance—Early in the season many growers contracted tomatoes to canners at an unprecedented price of \$15.00 per ton at the field. Later as much as \$25.00 was being paid. Of course those who contracted were discontented. Another instance—Shippers who annually made big profits shipping fall tomatoes, were notified that such shipments must be curtailed; that the tomatoes were to be canned.

The grain and bean regulations, or lack of regulation created an unsettled condition, leaving the crop in the growers' hands, however, causing but little hardship.

Reviewing the situation there is every reason to be optimistic from the growers' point of view, and let each one lend special consideration to the crop best suited to his individual condition of soil and climate, as all sorts of crops must prove profitable if not too expensive because of lack of labor.

Crops That Promise Exceptional Returns

Alfalfa and barley hay, cereals of all kinds, especially wheat.

Vegetables for Canning—Make contracts with canners for they are now offering fair prices; it is too much of a gamble to plant a large acreage to perishable crops without a contract.

These remarks apply only to independent growers.

The market gardener has his annual routine of crops from which he cannot deviate if he would maintain his trade.

The following list comprises the **Big Money Makers** for the local gardener and produce dealer, all of which were introduced by the Aggeler & Musser Seed Company. **Hybrid Casaba, Oregon Evergreen Sweet Corn, A. & M. First Early Tomato, Chilian, Angelino and Klondike Melons, Tip Top, Triumph and Armenian Muskmelons, Monstrous Lima Beans, White Seed Kentucky Wonder Beans, Orange County Profite Corn.**

The Home Garden

But the things that bring to us more letters of appreciation than anything else; the little things that make the Aggeler & Musser Seed Company a household friend, are the standard Home Garden varieties selected and planted according to the soil and season as outlined in this catalog, they produce abundantly of the most delicious vegetables.

If you would have such a garden be sure to select the following varieties, but be sure to read the description and cultural instructions in this catalog: **Kentucky Wonder Wax Pole Bean, Stringless Green Pod Bush Bean, Fordhook Bush Lima, Monstrous Lima.** (see description), **Bassano Beet, Autumn King Cabbage, Chinese Cabbage, Lemon Cucumber, Early Gem Carrot, Oregon Evergreen and Country Gentleman Sweet Corn, Swiss Chard,** (be sure to have a **Chayote vine**), **Iceberg Lettuce** for summer, **Los Angeles Market Lettuce** for winter, **Armenian and Famous Indiana Muskmelons, Hybrid Casaba, and Klondike Watermelon.** **Southport White Globe and Prizetaker Onion, Itele and White Tip Radish, Italian and Bannan Squash, Home and Early Stone Tomato.** This selection will never disappoint you, if grown according to instructions.

Write Department of Agriculture, Washington, D. C., for **Farmer's Bulletin No. 936, "The City and Suburban Vegetable Garden."**

It is surprising how valuable in actual cash, is a small garden properly managed; to properly manage a garden is always the easiest way. The person who knows how, works only half as hard and gets maximum results, as the person who works hard and gets only medium results. Therefore, these pages are intended to assist the amateur to get the best results with the least labor.

To begin with, let your slogan be: **Do it at the right time.**

Sow your seed at the right time.

Transplant at the right time and by the right method.

Destroy the insects at the proper time.

It is better for your garden that you apply water at the right time and in the right way.

It is easier and better to hoe your garden at the right time, than when it has become too dry and hard.

A young weed is more easily destroyed than an old one.

Read this Catalog and you will know when to "DO IT AT THE RIGHT TIME."

Thanks to the very commendable work of agriculture now directed in the public schools throughout the country, we look to see better conditions prevail in the homes.

Many a capable man with good intentions would have a garden if he only knew the simplest "first aids" to gardening. The next generation will know, and because they know, their homes will be more beautiful, and they will be more prosperous, for a good garden will supply possibly all and more vegetables than the family will consume. A very small plot of ground will do wonders toward giving the family more and better vegetables, besides reducing greatly the cost of living, and making better men and women of our boys and girls.

To encourage this kind of improvement for country homes, that life may be more enjoyable to the newcomer, unaccustomed to the solitude—

To encourage the city wives and daughters to transform unattractive homes into beautiful cozy spots that may well be the envy of their more wealthy neighbors, (such beauty spots always proclaim louder than words the refinement and culture of the people living there)—

To encourage the more youthful members of the household and to co-operate with the teachers where gardening is taught—

It is to old this work that we have made of this catalog a veritable encyclopedia for the gardener and rancher.

Testimonials

That this catalog is being appreciated is evidenced by the following testimonials:

MANUEL A. DEAS, JR., Territory of Hawaii, T. H.

I beg to report that I won first prize in the Garden contest, which closed June 16, 1918, in which all the schools and gardeners competed. It took Aggeler and Musser seeds to do it, and I will say that no better seeds can be had elsewhere.

PROF. E. G. WICKSON, University of California

I have read with interest your catalog for 1918, and wish to tell you that I find it not only beautiful in style, rich in its offering to planters but what naturally interests me more as a horticultural teacher, is the real educational value of many paragraphs which have ardently been prepared with great care and with wide knowledge of up to date facts about plant growing in California.

PROF. S. S. ROGERS, University of California

Your catalog certainly contains a whole lot of first class reliable information and is a credit to the house.

A. L. BRACHT, Texas

I am in receipt of your 1918 Twenty-Fifth Annual Seed Catalog, and after having read same through from cover to cover, must say it is the finest work we have ever seen of its kind. Any grower who utilizes the information contained in it and will plant seed adapted to his particular soil, season and section is sure to derive great benefit and profit. We will appreciate it very much if you can send us four or five additional copies of this catalog which we desire to place in the hands of friends.

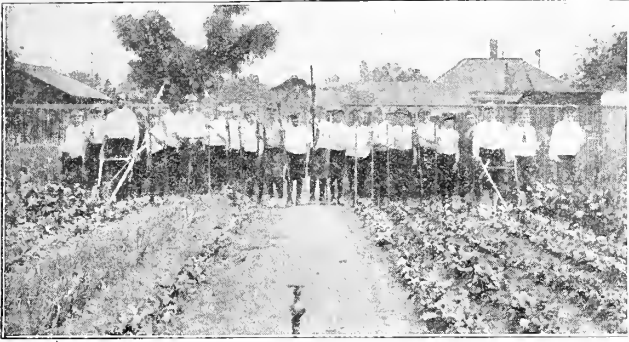
J. B. WATSON, California

I will be very thankful for a new catalog as mine is pretty well worn from constant handling. There is hardly a night passes by that I don't read it and always manage to find something I hadn't seen before. There is certainly some grand information in this catalog. Thanks in advance.

J. D. ALEXANDER, California

I have been looking over one of your catalogs which I borrowed from one of my neighbors, as I will want to send for some seed a little later. They have so much valuable information in them I would like one of my own and would you please send one to my brother. We surely have enjoyed reading your catalog even to the children. It has a lot of good reading in it.

School Gardening Made Easy



A FIELD OF LETTUCE

Notice in this picture the method of planting two rows on a ridge. It is now generally practiced by the large gardeners, and should be applied in the home garden. The drainage this method affords produces cleaner, better and earlier vegetables.

The following is a list of vegetables that should be planted the way we have illustrated in the picture:

Beets	Kohl Rabi	Parsley	Salsify
Chard	Lettuce	Parsnip	Spinach
Carrot	Onion	Radish	Turnip

Remember your garden in Southern California works all the year; every month you may plant some seed that will keep fresh vegetables for your table every day in the year.

THE SOIL

There are two kinds of soil in California that baffle the new gardener, and often puzzle the man of experience. One kind is the raw un-reclaimed soil that packs so hard that vegetation cannot take root. The other is soil as pliable as sand, and ought to grow anything but just will not. Both require the same solution. They need life (humus) and there is nothing better to put life into soil than stable manure or a green manuring crop plowed under at the right time, and to thoroughly air the soil by cultivation.

For your garden gather weeds and dig them under. If there is no stable manure available, any decaying vegetation plowed under will add humus. For the field, grow rye, vetch, mellilotus, or barley during the winter months, and in the spring plant Sorghum, Sudan and Cow Peas. All these crops will furnish feed for the stock as well.

To grow well a plant requires a deep, mellow, moist soil, supplied with the right amount of air, heat and available plant food. An important step, then, in the successful growing of vegetables is to prepare the soil in such a way that it will be congenial to the best root growth. The soil for truck crops is a rich sandy loam—a soil containing varying proportions of clay, sand and organic matter. A good vegetable soil can be made in most back yards by intelligent management.

Adobe Soil

How can adobe soil be made mellow? Thorough tillage of the soil, the application of organic matter and lime, and drainage, will all help to do this. Occasionally the addition of sand or fine gravel is needed.

Clay and Adobe Need Skill

Of all the garden soils, clay is the most easily injured by tilling when it is not in the right condition as to moisture. If worked too wet, the particles all slide together into a compact mass. On the other hand, if worked too dry, the clods are hard to break. When clay soil is in the right condition to work it will crumble apart if squeezed in the hand. If it sticks together it is too wet. Clay soil should never be worked when it is wet, not even with a hoe. This is an important lesson for all gardeners.

In a deep, mellow soil, the plants grow more quickly, since larger root systems can be developed and more food and moisture taken in. A deep, mellow soil affords a larger reservoir to hold rain needed during the droughts that come in the growing season. Such a soil is warmer and contains air needed for the growing roots and for the bacteria that cause decay of organic matter or gather nitrogen from the soil air.

A Word About Sowing Seeds

Many seeds are small and the germination weak, therefore, sow them very shallow, often not more than one-eighth inch deep. This is because the germ or sprout must have air and light. If this is denied by too deep sowing, it dies before it reaches the surface.

In order to assist small or weak seeds to grow, it is advisable to plant plentifully, because the many seeds will give strength to raise the soil where one could not do so.

This advice applies particularly to beet and melon seeds, but it is applicable to all small seeds. It is easy to thin out the surplus plants. A good general rule is to plant seeds to a depth equal to from three to five times their diameter, make ridges to stand about six inches high, flattened to about ten inches wide on top and twelve inches between ridges. Drill the seed or transplant on each side of the ridge. Irrigate in the furrow between the ridges. By this method two rows are irrigated with one furrow, and you will

have only one furrow to cultivate after each irrigation. It is easy to see the advantage of this method over the usual way of drilling on level ground and irrigating each row, often flooding the plant, which is harmful, particularly during the heat of summer.

A Few Words About Irrigation

In seed beds where small seeds are sown thickly, it is necessary to sprinkle the beds, never flood them. During the winter months, sprinkle only in the morning when the water is warmer than the dew. This allows all the heat that accumulates in the soil during the day to be retained far into the night. During the hot summer months, it will be necessary to sprinkle in the evening to revive the plants after a hot day.

When making a garden, whether for drilling or planting seed, or setting plants, always wet the ground thoroughly. GIVE IT A GOOD SOAKING TO A DEPTH OF TWO OR THREE FEET OR MORE. As soon as it is tillable—that is as soon as it can be spaded and pulverized, or when the soil will not stick to the spade—dig it ten to twelve inches deep, put stable manure into every other furrow and turn it under. This is needed for humus and fertilizer, either in sandy or loamy soil, and more especially in adobe soil. Pulverize the soil thoroughly and rake it evenly. While it is still moist, plant seed from one-fourth inch to one inch deep, in heavy soil, and a little deeper in sandy soil. Planted this way, almost any variety of seed will germinate and show above the ground in from four to ten days, without irrigation. Never sprinkle a new garden before the plant is above ground, nor after if you can irrigate between the rows. It is far better to irrigate than to sprinkle, and much less labor. Always mulch the soil after each irrigation, as soon as it mulches readily, but no sooner. To allow the soil to bake after irrigation is far worse than no irrigation at all.

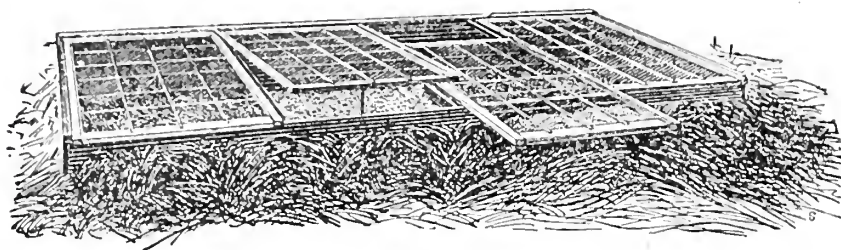
To sprinkle the garden slightly each day during the summer months is of little value unless the ground is also thoroughly irrigated once each week or two, according to the nature of the soil. Slight sprinkling refreshes the foliage, but may not penetrate the soil more than one inch deep. Thus as the under soil dries, the roots get no moisture. The plants suffer, and you do not suspect the cause because you sprinkle each day. This is a common fault and the cause of many failures.

JACK BAIN, California

I would like to express my appreciation for the kind of seeds you sell for I have had better success with everything I have planted this year than I have ever had before.

W. T. UAGILL, California

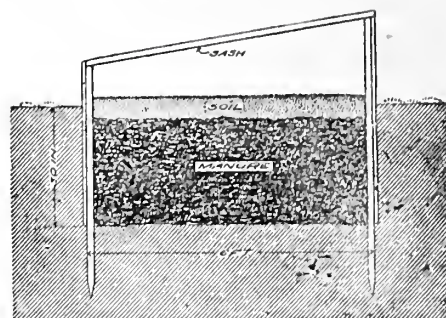
I am delighted with the seed catalog, and its contents. It is as valuable to the amateur gardener as an Encyclopedia is to a writer or scholar. I find all the information needed about plants within its covers. I value it very highly.



Hot Bed

Every garden should have a hot bed in a sunny corner for the purpose of raising plants for early vegetables.

Dig a trench east and west twelve to eighteen inches deep. A bed three feet wide and ten feet long is large enough for any family garden. Board twelve inches high on the north side and six inches high on the south side. Fill twelve inches deep with strawy manure or weeds, moisten slightly, pack tightly, cover three inches deep with sandy loam; if the loam is mixed with some finely sifted sheep manure or leaf mould, it will greatly improve it. Sow the seed in rows across the hot bed north and south so that the sun will light both sides of the row during the day, making strong, healthy plants. Do not sow too thickly nor more deeply than one-fourth inch. Cover the hot bed with glass, not muslin. No less than twelve inches should exist between the glass and the soil, because plants must have air. Sprinkle always in the morning, or, if necessary to do so in the evening, use warm water. Sprinkle sufficiently to moisten the soil, but not enough to flood the manure, which would then become chilled and be worse than no manure at all. Raise the glass during the day, and close at night. Without ventilation the plants may be scalded during a warm sunny day. Before transplanting from the hot bed, all plants should be



Cross-Section of Hot Bed

hardened by exposing them to the sun for several days. Exercise proper judgment, lest they be destroyed.

LATH HOUSE

Lath houses are used to protect plants against the extreme heat, cold or winds. Four-foot laths nailed into frames on 1 in. by 3 in. by 12 feet, pine, are used. The height of a lath house varies from 8 to 12 feet. Lath houses are used for starting seedlings, cuttings, and the growing of ferns, smilax and asparagus strings. They are also used to shelter young plants and to transplant tender stock in boxes.

Lath houses in Southern California contain some very fine collections of ferns, begonias and palms. Lath houses can be made in any style to conform with other buildings. We do not recommend the use of lath houses for vegetable plants, but we find it very valuable in the propagation of eucalyptus, cypress, acacia and most all evergreen shrubs and trees.

NUMBER OF PLANTS TO AN ACRE

Set at regular distances apart

Distance apart.	No. plants	Distance apart.	No. plants	Distance apart.	No. plants
3 in. by 4 in.	522,720	4 1/2 ft. by 4 1/2 ft.	2,150	14 ft. by 14 ft.	222
4 in. by 4 in.	392,040	5 ft. by 1 ft.	8,712	15 ft. by 15 ft.	193
6 in. by 6 in.	174,240	5 ft. by 2 ft.	4,356	16 ft. by 16 ft.	170
1 ft. by 1 ft.	43,560	5 ft. by 3 ft.	3,904	16 1/2 ft. by 16 1/2 ft.	160
1 1/2 ft. by 1 1/2 ft.	19,360	5 ft. by 4 ft.	2,178	17 ft. by 17 ft.	150
2 ft. by 1 ft.	21,780	5 ft. by 5 ft.	1,742	18 ft. by 18 ft.	134
2 ft. by 2 ft.	10,890	5 1/2 ft. by 5 1/2 ft.	1,440	19 ft. by 19 ft.	120
2 1/2 ft. by 2 1/2 ft.	6,960	6 ft. by 6 ft.	1,200	20 ft. by 20 ft.	108
3 ft. by 1 ft.	14,520	6 1/2 ft. by 6 1/2 ft.	1,031	25 ft. by 25 ft.	69
3 ft. by 2 ft.	7,260	7 ft. by 7 ft.	888	30 ft. by 30 ft.	48
3 ft. by 3 ft.	4,840	8 ft. by 8 ft.	680	33 ft. by 33 ft.	40
3 1/2 ft. by 3 1/2 ft.	3,555	9 ft. by 9 ft.	537	40 ft. by 40 ft.	27
4 ft. by 1 ft.	10,890	10 ft. by 10 ft.	435	50 ft. by 50 ft.	17
4 ft. by 2 ft.	3,630	11 ft. by 11 ft.	360	60 ft. by 60 ft.	12
4 ft. by 4 ft.	2,722	12 ft. by 12 ft.	302	66 ft. by 66 ft.	16

Rule.—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and the product will be the number of square feet for each plant or hill; which divided into the number of square feet (43,560), will give the number of plants to the acre.

AGRICULTURAL BOOKS

	Price	Pstpd.		Price	Pstpd.
A. B. C. of Agriculture, by Weld.....	.50	.55	Garden Helps, by Hall.....	.75	.85
Alfalfa, by Coburn.....	.50	.60	Gardening in California Landscape and Flower, by McLaren.....	3.75	4.00
Art of Propagation, by Jenkins.....	.25	.30	Ginseng, Kain's Book on.....	.50	.60
Asparagus, by Hexamer.....	.50	.60	Insects and Insecticides, by Webb.....	1.50	1.65
Avocado Industry, by Popenoe.....	.15	.20	Irrigation Farming, by Wilcox.....	2.00	2.20
Bean Culture, by Sevey.....	.50	.60	Irrigation for the Farm, Garden and Orchard, by Stewart.....	1.00	1.10
Cabbage and Cauliflower, by Allen.....	.50	.60	Mushroom Culture, by American Spawn Co.....	.35	.40
California Fruit and How to Grow It, by Wickson.....	3.00	3.20	New Onion Culture, by Grenier.....	.50	.60
California Vegetables, by Wickson.....	2.00	2.15	Onion Culture.....	.20	.25
California Garden Flowers, Shrubs, Trees and Vines.....	1.50	1.60	Peanut Culture, by B. W. Jones.....	.50	.55
1000 Questions in California Agriculture Answered, by Wickson.....	1.50	1.60	Potatoes, by Fraser.....	.75	.85
Campbell's Progressive Agriculture.....	1.00	1.10	Pruning, by Bailey.....	1.50	1.75
Celery Culture, by Beattie.....	.50	.60	Rhubarb Culture, by J. W. Morse.....	.50	.60
Cereals of the United States, by Hunt.....	1.75	1.85	Rooding's Planters' Guide.....	.25	.30
Chrysanthemums, by Herrington.....	.50	.60	Soils, by Burkett.....	1.25	1.40
1905 Dry Farming, by Campbell.....	.50	.60	Spraying Crops, by Weed.....	.50	.60
1907 Dry Farming, by Campbell.....	2.50	2.60	Strawberry Culture, by A. S. Fuller.....	.25	.30
Farm Grasses of the United States, by Spillman.....	1.00	1.10	Sweet Potato Culture, by Fitz.....	.50	.60
Fertilizers, by Gregory.....	.50	.60	Talks on Manures, by Harris.....	1.50	1.60
Flax Culture.....	.30	.35	Tobacco Culture.....	.25	.30
Forage Crops, by Shaw.....	1.00	1.10	Tomato, by Tracy.....	.50	.60
Garden Beautiful in California, by Brauntun.....	1.00	1.10	Tomato Culture, by Root.....	.35	.40

LITERATURE FOR POULTRYMEN

	Price	Pstpd.		Price	Pstpd.
American Standard of Perfection (1915).....	\$2.00	\$2.20	Poultry Architect.....	.50	.60
Artificial Incubation and Brooding.....	.50	.60	Poultry Remedies.....	.25	.30
Barred, White, Buff, Plymouth Rocks.....	.50	.60	Profitable Poultry Farming.....	.25	.30
Bantam Fowl.....	.50	.60	Pacific Coast Rabbit Book.....	.25	.30
Broilers and Squabs.....	.50	.60	Rhode Island Reds.....	.75	.85
Capons for Profit.....	.50	.60	Successful Poultry Keeper.....	1.00	1.10
Diseases of Poultry.....	.50	.60	The New Egg Farm.....	1.00	1.15
Duck Culture, by Rankin.....	.75	.85	Turkeys, All Varieties.....	.75	.85
Ducks and Geese.....	.75	.85	Two Hundred Eggs Per Year—How to Get Them.....	.50	.60
Leghorns, Brown, White and Buff.....	1.00	1.10	The Wyandottes.....	.50	.60
National Standard Squab.....	1.00	1.10	Western Poultry Book.....	1.00	1.10
Poultry Houses and Fixtures.....	.50	.60			

Formula For Destroying All Kinds of Insects

The ever increasing army of insects demands cooperative and scientific combative action. The insect cannot be ignored even in a small garden. To destroy insects is as much a part of your routine garden work as is cultivation and irrigation. It must be done to insure success. Therefore, study and prepare for it as an essential part of your agricultural education.

Write University of California, College of Agriculture, Berkeley, Cal., for Circular No. 128, Insecticide Formulas by C. W. Woodworth.

Save this Calendar for your scrapbook. This Calendar is needed nearly every month of the year, therefore do not destroy it. This Catalogue contains valuable information; keep it.

The following chart is intended to aid the amateur with ready information for quick action.

DISEASE OR INSECT	REMEDY	TIME TO TREAT
The scales, black, red, yellow, purple and greedy.	CITRUS—ORANGE, LEMON AND POMOLO	Sept. 1st to Feb. 1st. Oct. and Nov. best.
Citricola (soft gray) scale.	Fumigation formula No. 1.	Aug. and Sept.
Mealy bugs. Formulas Nos. 2 and 3 give some benefit, but inferior to No. 1.	Formula No. 1.	Whenever the insects appear.
Red spider, also fungus troubles and young scale.	Form. No. 1, repeating in a month and again if required, using 1½ ordinary dose.	March 1 to Oct. at first appearance of red spiders.
Gum disease and scaly bark.	Lime sulphur spray 32 degrees, 2½ per cent; or fine, dry sulphur applied when trees are damp.	At first appearance. March, April and May.
Shot hole fungus, peach blight, San Jose scale and spider mites.	Formula No. 4.	As soon as leaves have fallen in early winter.
Peach leaf curl.	BROWN ROT—Bordeaux mixture applied to lower branches and soil beneath after cleaning up and cultivation.	Just before buds swell in spring.
Peach twig borer (wormy peaches) and San Jose scale.	PEACH, NECTARINE, PLUM AND ALMOND	When new growth starts and first insects appear, repeating as needed.
Black peach aphids.	Lime sulphur spray 32 degrees, 10 per cent strength.	During winter while trees are free from leaves.
Tobacco, wood ashes and blue stone applied to soil over roots are helpful.	Bordeaux mixture, winter strength.	After first bloom has fallen and before calyx cups are closed.
San Jose and other scales, spider mites and fungi.	Lime sulphur spray 32 degrees.	Whenever insects appear.
Codling moth and various caterpillars.	Formula No. 3, adding 1 oz. 40 per cent nicotine sulphate (black leaf 40 min.) to seven gallons. Soaking similar amount as top receives into soil over roots.	During winter when trees are bare.
Woolly aphids.	APPLE	All the year, but especially the later winter.
San Jose scale, spider mites.	Lime sulphur spray 32 degrees, 10 per cent strength.	When shoots are foot long; in mid-summer, also just as fruit is ripening.
Pear blight. Dip shears after each cut into water having 1 part to 1000 added of corrosive sublimate or 1 to 240 of 40 per cent formaline.	Formula No. 5 applied downward. Repeat in ten days and again in two weeks.	After leaves have fallen. Repeat if necessary.
Mildew on grape.	Same treatment as for black peach aphids.	In spring and summer.
White rose scale on bush berries.	PEAR	Spring and summer.
Orange fungus and anthracnose.	Lime sulphur spray 32 degrees, 10 per cent.	Spring and summer.
Aphis (plant lice).	Cut out every appearance of the disease on twigs, branches or trunk well down into healthy wood.	After cutting season and every ten days until fall.
Rose scale and orange fungus.	SMALL FRUITS	Spring and summer at first appearance of insects.
Mildew.	Fine dry sulphur applied when vine is damp.	When first worms or white butterflies appear.
Rust on asparagus.	Formula No. 2; scrub bad cases if necessary with the liquid.	Appearance of lice.
Spider mites on beans, causing rusty appearance.	Bordeaux mixture, summer strength; cut out parts showing spores.	Very first appearance of insects and repeated as needed.
Aphis (plant lice).	ROSES	When the first lice appear.
Green worm on cabbage, cauliflower or kohlrabi.	Formula No. 3, adding 40 per cent nicotine sulphate 1 oz. to 7 gals.	At very first appearance of mildew and repeat as necessary.
Cut worms on any plant. May hunt worms at night with light.	Formula No. 2.	Before planting.
Aphis (plant lice).	Fine dry sulphur to damp leaves.	When crop is nearly ripe.
Aphis (plant lice) on cantaloupe, cucumber, squash.	VEGETABLES	When dug.
Squash bugs and cucumber beetles. May cover young plants with screen top box.	Bordeaux mixture, summer strength, or dry sulphur.	When first worms appear.
Aphis (plant lice) on peas.	Fine dry sulphur or lime sulphur is good.	In spring and summer. When they appear.
Mildew on peas.	Formula No. 3.	
Scab and other fungi on potato seed.	Formula No. 5 until heading begins, then use powdered hellebore.	
Tuber moth on potato.	Formula No. 6 or boards laid between rows to be turned over in morning and worms beneath killed.	
Tomato worms.	Formula No. 3.	
Slugs and snails on many vegetables and flowers.	Same as for rose aphids, applied to lower side of leaves.	
	Hand picking of first bugs that come before young are batched. Wood ashes or lime help some.	
	Formula No. 3.	
	Fine dry sulphur on damp leaves. Lime sulphur also good.	
	Soak 1 hour in solution 40 per cent formula. 1 pint to 25 to 30 gallons water.	
	Keep well covered to prevent tuber moth access through cracks in soil.	
	Always protect tubers from moth at night.	
	Pick off by hand or before fruit is half grown use Formula No. 5.	
	Same as for cutworms. Wood ashes and lime when fresh help some.	

FORMULA NO. 1—Fumigation. Multiply distance over tented tree by distance around; "point off" last two figures. Three-fourth of this amount is number ounces Sodium Cyanide required. For each ounce cyanide use 1½ ounces Sulphuric Acid in two ounces water. Place latter in deep dish under tent; drop in cyanide, close quickly, leave one hour. Do not breathe gas.

FORMULA NO. 2—Mermaid or Gold Dust washing powder.....1 lb.
45 degree distillate (like used in auto).....1 pint
Water.....4 gals.
Mix well and spray with strong pressure.

FORMULA NO. 3—(Black Leaf 40)
Soap dissolved in hot water.....¼ lb.
Cold water.....6 gals.
Black Leaf 40.....1 oz.
For Insecticides see page

FORMULA NO. 4—Dissolve 1 lb. blue stone in one gallon water in a wooden or earthen vessel by hanging it in a sack in the top of the water. Then slack 2 pounds of fresh lime in ½ gallon water and when cool mix the two solutions, making them about like whitewash. Apply with a brush.

FORMULA NO. 5—Arsenate of lead paste.....6 lbs.
(or half as much powdered arsenate of lead)
Wheat flour (stirred into water).....4 lbs.
Water.....100 gals.
(1 oz. of the paste or ½ oz. of powder to 1 gal. of water.)
This spray must be well agitated while using.

FORMULA NO. 6—Poison Bait. Wheat bran 5 lbs. White arsenic 4 oz. (or Paris green, 8 oz.). Mix well, then add 1 lemon chopped fine. Moisture to make adhere, with well sweetened water.

VEGETABLE GARDEN CALENDAR FOR OUT-DOOR PLANTING 300 Questions Answered On This Page

Owing to the diversity of the soil and climatic conditions of the great Southwest, it is impractical to follow without some deviation any table that might be formulated. We believe this table is as nearly correct as any table can be made, yet the time of planting must vary with each season, and so seldom are the seasons at all similar that there is always an element of risk for the man who plants early. Each month, too, requires certain varieties best suited to the season and purpose for which it is planted.

KIND	SEED FOR 1 ACRE	SEEDS FOR 100 FEET OF ROW	DISTANCE APART FOR HAND CULTIVATION		DEPTH OF PLANTING (*2)	TIME OF PLANTING (*3)	READY FOR USE AFTER PLANTING (*4)
			ROWS APART (*1)	APART IN ROW (*1)			
*Artichoke	1 lb.	1 oz.	3 ft.	3 ft.	1 in.	Apr. to July	8 mos.
*Asparagus Seed	3 lbs.	1 oz.	1 to 2 ft.	3 to 5 in.	1 in.	Feb. to May	2 years
*Asparagus Plants	14,000	60 to 80	2 to 3 ft.	1 to 20 in.	6 to 10 in.	Dec. to Mar.	1 year.
*Beans, Bush	25 to 50 lbs.	1 lb.	1½ to 2 ft.	4 in.	1 to 2 in.	Mar. to Sept.	2 to 3 mos.
*Beans, Pole	25 to 40 lbs.	½ lb.	3 to 4 ft.	3 to 4 ft.	1 to 1½ in.	Mar. to July	2 to 3 mos.
*Beets, Table	10 to 15 lbs.	2 oz.	1 to 1½ ft.	2 to 4 in.	½ to 2 in.	All the year	3 to 4 mos.
*Brussels Sprouts	½ lb.	¼ oz.	1½ to 2 ft.	1½ to 2 ft.	½ in.	All the year	5 to 6 mos.
*Cabbage	½ lb.	¼ oz.	2½ ft.	1 to 2 ft.	½ in.	All the year	3 to 4 mos.
*Carrot	4 lbs.	¼ oz.	1 to 2 ft.	3 to 4 in.	½ in.	July to Jan.	4 to 5 mos.
*Cauliflower	½ lb.	1 oz.	2½ to 3 ft.	1 to 2 ft.	½ in.	Jan. to May	2 to 3 mos.
*Celery	¼ lb.	¼ oz.	1½ to 3 ft.	6 in.	½ in.	Mar. to Aug.	2 to 3 mos.
*Corn, Sweet	10 lbs.	¼ lb.	3 to 4 ft.	12 in.	1 in.	Mar. to Sept.	3 to 4 mos.
*Cucumbers	3 lbs.	1 oz.	2 ft.	1½ to 2 ft.	½ to 1 in.	Dec. to July	3 to 4 mos.
*Egg Plant	½ lb.	1-3 oz.	3 to 2½ ft.	1 to 2 ft.	½ in.	All the year	3 to 4 mos.
*Kale, or Boterole	½ lb.	1 oz.	1½ to 2 ft.	1 to 2 ft.	½ in.	All the year	3 to 4 mos.
*Kohl-Rabi	3 lbs.	¼ oz.	1½ to 2 ft.	4 in.	½ in.	All the year	3 to 4 mos.
*Lettuce	3 lbs.	½ oz.	1½ to 2 ft.	6 to 8 in.	½ in.	All the year	3 to 4 mos.
*Melon, Musk	1 lb.	½ oz.	4 to 6 ft.	6 to 8 ft.	1 in.	Mar. to July	3 to 4 mos.
*Melon, Water	1 lb.	1 oz.	6 to 8 ft.	8 to 10 ft.	1 in.	Apr. to July	4 mos.
*Okra	6 lbs.	1 oz.	2 ft.	2½ to 3 in.	½ to 1 in.	Aug. to Apr.	4 to 5 mos.
*Onion Seed	3 lbs.	1 oz.	1 to 1½ ft.	1 to 2½ in.	1 in.	All the year	5 to 6 mos.
*Onion Sets	250 lbs.	2 lbs. sets	1 to 1½ ft.	3 to 4 in.	½ in.	All the year	4 to 5 mos.
*Parsley	2 lbs.	¼ oz.	1 to 1½ ft.	3 to 4 in.	½ in.	All the year	5 to 6 mos.
*Parsnip	4 lbs.	½ oz.	1½ to 2 ft.	2 to 3 in.	½ to 1 in.	All the year	4 to 5 mos.
*Peas	60 lbs.	½ lb.	2½ to 3 ft.	15 to 18 in.	2 to 3 in.	All the year	3 to 4 mos.
*Pepper	½ lb.	1 oz.	1½ to 2 ft.	2 to 15 in.	½ in.	Dec. to July	2 to 3 mos.
*Potatoes, Irish	600 lbs.	5 lbs.	2 to 3 ft.	4 to 6 in.	4 to 6 in.	Jan. to Sept.	3 to 4 mos.
*Potatoes, Sweet	12,000	3 lbs.	3 to 5 ft.	14 in.	3 in.	Mar. to July	3 to 4 mos.
*Pumpkin	1 lb.	½ oz.	6 to 8 ft.	6 to 8 ft.	1 to 1½ in.	Mar. to Aug.	3 to 4 mos.
*Radish	12 lbs.	1 oz.	1 to 1½ ft.	1½ to 2 ft.	½ in.	All the year	1 to 2 mos.
*Rhubarb Plants	5,000	33 plants	3 to 5 ft.	3 ft.	2 to 3 in.	Dec. to May	2 to 3 mos.
*Salsify	6 lbs.	1 oz.	1½ to 2 ft.	2 to 4 in.	1 to 2 in.	All the year	3 to 4 mos.
*Spinach	2 lbs.	1 oz.	1½ to 2 ft.	2 to 4 in.	1 in.	All the year	3 to 4 mos.
*Squash, Summer	2 lbs.	¼ oz.	3 to 4 ft.	3 to 4 ft.	1½ in.	Feb. to Sept.	2 to 3 mos.
*Squash, Winter	1 lb.	½ oz.	7 ft.	7 to 9 ft.	1½ in.	Mar. to Aug.	3 to 4 mos.
*Tomato	½ lb.	¼ oz.	4 to 5 ft.	2½ to 3 ft.	½ in.	Dec. to July	3 to 4 mos.
*Turnip	3 lbs.	1½ oz.	1 to 2 ft.	3 to 4 in.	½ to 1 in.	All the year	3 to 4 mos.

(1)—Distance apart varies with the season and soil.

(2)—Depth of planting varies with the season and condition of soil.

(3)—Time of planting varies according to local conditions with regard to temperature.

(4)—Time of maturity varies with the temperature and cultural conditions. This table shows required time of maturity after transplanting. It requires 6 to 8 weeks longer from time of sowing seed.

†—Drill and thin.

*—Transplant.

‡—Plant in hills.

SEEDS REQUIRED PER ACRE FOR FIELD CROPS IN SOUTHERN CALIFORNIA

VARIETY	NUMBER OF PLANTS OR AMOUNT OF SEED	HOW TO PLANT	AVERAGE APPROXIMATE YIELD	AVERAGE APPROXIMATE VALUE
Alfalfa	25 lbs. seed	Drill or broadcast	8 to 10 tons hay, or 600 lbs. seed	\$60; \$100 to \$150
Alfalfa	8 lbs. seed	Drill or broadcast	3 ton hay, and pasture	
Barley	100 lbs. seed	Drill or broadcast	2 to 4 tons hay	\$35 to \$60
Beans, Bush	25 to 40 lbs.	Drill in rows 2 ft. apart	1500 to 2000 lbs.	\$60 to \$80
" Lima	50 to 60 lbs.	Drill in rows 3 ft. apart	1500 to 2000 lbs.	\$75 to \$100
" Windsor	100 lbs.	Drill in rows 2 ft. apart	1500 to 2000 lbs.	\$75 to \$100
Beets, Stock	45 "	Drill or broadcast	Dog pasture and green manuring	\$100 to \$125
Buckwheat	20 "	Drill or broadcast	Green manuring	
Burr Clover	20 "	Drill or broadcast	Pasture and green manuring	
Canary	50 "	Drill or broadcast	1½ tons seed	\$75 to \$100
Cane, or Sorghum	10 "	Drill, or 40 lbs. broadcast	20 tons green fodder	
Carrots, Stock	4 "	Drill in rows 1½ ft. apart	20 to 25 tons of carrots	\$150 to \$200
Corn, Broom	10 "	Drill in rows 2 ft. apart	½ ton broom straw	\$50 to \$100
" Egyptian	10 "	Drill in rows 2 ft. apart	½ ton broom straw	\$35 to \$45
" Ensilage	80 "	Drill in rows 1 ft. apart	30 to 50 tons	
" Field	10 "	Hills 2 ft. apart, rows 2 ft. apart	2 tons grain	
" Kafir	10 "	Drill in rows 2 ft. apart	1½ tons	\$35 to \$45
" Milo Maize	10 "	Drill in rows 2 ft. apart	1½ tons grain	\$40 to \$60
" Pop	6 "	Hills 1 ft. apart, rows 2 ft. apart	1 ton	\$90
Cotton	15 "	Drill in rows 4 ft. apart	1 to 1½ bales and seed	
Cow Peas	25 "	Drill in rows 2 ft. apart	Pasture and green manuring	\$60
Festaria	10 "	Drill in rows 2 ft. apart	2 tons grain	\$65
Flax	60 "	Drill or broadcast	1½ tons grain	\$120
Foenugreek	35 "	Drill or broadcast	1 ton grain or green manuring	
Grass, Bermuda	8 "	Broadcast	Pasture (damp land)	
" Italian Rye	20 "	Broadcast	Hay and pasture (damp land)	
" Parra	40,000 stems	Plant in mud as rice, wet land	Cut 2 tons per acre 4 times per year	
" Paspalum	10 lbs.	Broadcast	Cut 1½ tons per acre 4 times (damp land)	
" Peren. Rye	20 "	Broadcast	Hay and pasture	
" Rhodes	10 "	Broadcast	Cut 2 tons per acre 3 times	\$50
" Sudan	10 "	Broadcast	Cut 2 tons per acre 5 times	\$40
Hemp	60 "	Broadcast	Cut in 100 days for fibre	\$40
Oats	80 to 100 lbs.	Drill or broadcast	3 tons hay or 1 ton grain	\$10
Rye	60 lbs.	Drill or broadcast	Pasture and green manuring, or 1 ton grain	\$10
Vetch	60 "	Drill or broadcast	2 tons hay or 1 ton grain	\$40 to \$50
Wheat	60 to 80 lbs.	Drill or broadcast		

SEEDS AND PLANTS PER ACRE FOR VEGETABLES

VARIETY	SEED	PLANTS	YIELD	VALUE
Asparagus	3 lbs.	10,000	Indefinite	Indefinite, \$200 to \$300
Beans, String	50 "	Drill	Indefinite	Indefinite, \$100 to \$300
Beets, Table	12 "	Drill	10 tons	Indefinite, \$300
Cabbage	12 "	11,500	10 tons	Indefinite, \$80 to \$300
Carrot	4 "	Drill	500 sacks	\$200 to \$100
Cauliflower	12 "	12,000	8,000 heads	\$150 to \$250
Celery	12 "	20,000	2,000 doz.	\$300 to \$600
Corn, Sweet	10 to 20 lbs.	Hills	100 boxes	\$150 to \$300
Cucumber	3 lbs.	2,100 hills	Indefinite	\$75 to \$100
Egg Plant	12 "	7,000	Indefinite	\$100 to \$500
Lettuce	3 "	40,000	500 crates	\$300 to \$600
Melons, Casaba	1 "	650 hills	Indefinite	\$75 to \$250
Melons, Musk	1 "	1,200 hills	Indefinite	\$75 to \$250
Melons, Water	1 "	435 hills	Indefinite	\$100 to \$600
Onion	3 "	250-lbs. sets	10 to 15 tons	\$100 to \$400
Peas	60 "	Drill	Indefinite	\$100 to \$600
Peppers	12 "	12,000	Indefinite	\$100 to \$200
Potato, Irish	600 "	14,520 hills	60 to 100 stocks	\$100 to \$200
Potato, Sweet	400 "	12,000 hills	100 to 200 sacks	\$75 to \$100
Pumpkin	1 "	500 hills	15 to 20 tons	\$50 to \$200
Rhubarb	2 "	5,000 plants	Indefinite	\$250
Spinach	15 "	Drill	10 tons	\$75 to \$200
Squash, Hubbard	1 "	680 hills	10 to 15 tons	\$100 to \$600
Tomato	12 "	1,000 plants	10 to 20 tons	\$100 to \$250
Turnip	8 "	Drill	500 sacks	\$100 to \$250

A & M SEEDS

AGGELER & MUSSER SEED CO'S

Vegetable Seeds are the Standard Seeds of the Southwest.

A & M SEEDS

The vegetables grown from A & M seeds are the standard vegetables at every market in which they appear. The following pages offer only the standard varieties that have been tried and proven to be adapted to certain conditions, and each variety is adequately described, that the purchaser need make no mistake in selecting the seeds best suited to the season and to his local conditions. Read the descriptions carefully; if yet in doubt, write us.

SEEDS PLANTED OUT OF SEASON, OR IN UNCONGENIAL SOIL MEAN LOSS TO THE GROWER.

We aim to have on hand throughout the year Vegetable Plants of every kind in their proper season

	On Hand	Doz.	100	1000
Artichoke, Green Globe.....	Jan. 1st to May 1st.....	\$1.25	\$8.00	\$8.00
Asparagus, Argenteuil, Palmetto.....	Jan. 1st to May 1st.....	.25	1.50	8.00
*Cabbage, Winingstadt, Danish Ballhead.....	All Year.....	.15	.60	4.00
*Cauliflower, Snowball, Early Pearl.....	Sept. 1st to Apr. 1st.....	.15	.85	5.00
*Celery, Dwarf Golden Self-Blanching.....	Apr. 1st to Sept. 1st.....		.75	5.00
Chives.....		1 bunch 5c.		
*Egg Plant, New York Spineless.....	Apr. 1st to Sept. 1st.....	.50	4.00	25.00
Horseradish, Bohemian.....	Jan. to May 1st.....	.15	1.00	8.00
*Pepper, Anaheim Chili.....	Mar. 15th to Sept. 1st.....	.20	1.25	10.00
Chinese Giant.....	Mar. 15th to Sept. 1st.....	.20	1.25	10.00
Pimiento.....	Mar. 15th to June 1st.....	.20	1.25	10.00
Rhubarb, Wagner's Giant.....	Jan. to May 1st.....	1.00	7.00	
*Sweet Potato, Yellow Jersey.....	Mar. 15th to July 1st.....	.10	.75	4.00
Porto Rico and Georgia Yam.....	Apr. 1st to June 1st.....	.15	1.00	5.00
Sweet Potato, Nancy Hall.....				
*Tomato, A. & M. First Early.....	Feb. 15th to June 1st.....	.15	1.00	8.00
Home.....	Feb. 15th to June 1st.....	.15	1.00	8.00
Beefsteak.....	Feb. 15th to June 1st.....	.15	1.00	8.00
Stone.....	Apr. 1st to Sept. 1st.....	.15	1.00	8.00

After May 1st tomato plants grown outside, \$3.00 per 1000.

NO PLANTS SENT BY MAIL OR EXPRESS

For several years we have contemplated the necessity of discontinuing the sending plants by mail or express. We hesitated to make such a decision knowing it is a great accommodation to our customers to get plants by mail. But the necessity for stringent quarantine regulations against insects, requires a rigid inspection of all plants sent by mail or express. Therefore the Postmaster or express agent may not deliver plants until inspected by the proper authority who may live miles away and thus delay delivery for several days, during which time the plant becomes worthless and the customers invariably ask for more. We have never refused to send more, but it is unbusinesslike and unprofitable to do so. It is unsatisfactory to both parties and makes a dissatisfied customer.

When you contemplate buying plants make use of our call counter (see page 5). Order by letter or phone and they will be ready when you call for them.

We aim to have on hand throughout the year vegetable plants of every kind in their proper season.

Every packet contains enough seed to grow more vegetables of its kind than the average family can consume in a season.

When you have more than you want, sell or give to your neighbors. Do not waste!

A SUGGESTION

Each season some one in every community has neglected to grow plants for their garden, often with the idea that they will need only half a dozen each of several kinds and they can be bought cheaper than they can be grown; all of which is very true. Therefore let us suggest that when you are reading this catalog preparatory to making up your order for seeds take into consideration that many of your neighbors will want some plants. So, if you hesitate to order a packet of this or that because three or four plants are all you need, just consider that your neighbor will want some; it will not be much trouble to grow them along with other things, and you or your boy may make a little money with which to buy War Saving Stamps, and at the same time increase food production. Also accommodating your neighbor.

A & M Artichoke

REMARKS: The early artichoke brings a high price; but Southern California climate does not produce them early enough to get this high price, therefore we do not advise planting more than 1/4 acre for local market.

The French Artichoke is being canned quite extensively and we would suggest, if you live near a cannery, seek to make a contract to grow the artichoke in sufficient quantity.

The seed may be sown at any time and transplanted when about eight inches high. It will mature in about eight months from time of planting the seed, but in Southern California the proper season to bloom is in March.

The best way to get a good artichoke is to secure plants from old stalks of some good strain, as seeds cannot be depended upon to produce any certain variety. One half dozen is enough for a family garden.

Transplant five feet apart in rows seven feet apart. When the young plants are attacked by aphids spray with "Black Leaf 40." About the time the buds are well advanced the under leaves often become a harbor for flies and aphids. When this occurs break off all the under leaves, clear the ground of all rubbish and spray with "Black Leaf 40." You will then have a long season of large, clean buds.



Six Artichoke plants in a family garden

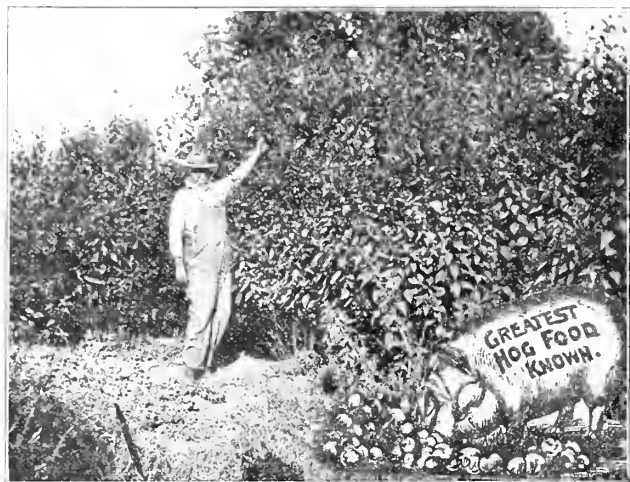
Selected Large Green Globe

(Pkt. 7 1/2 c) (oz. \$1.20) (lb. \$12.00).

Plants from good stalks, 10c each; 6 plants 50c. No plants sent by mail or express.

Jerusalem Artichoke

REMARKS: There is only a limited market for the Jerusalem Artichoke because it is little used for human food, and because of its perishable nature it is advisable that you grow only for your own use.



Jerusalem Artichoke

It is a most valuable food for hogs. It is said by many hog raisers that a hog fed on artichokes has never been known to have cholera. They grow to perfection here, yielding as much as 500 sacks per acre. They are grown from tubers the same as Irish potatoes. It requires 300 lbs. to plant an acre. Cut the tubers to single eyes. Plant during March and April two feet apart in rows three feet apart. Let them grow until fall and allow the hogs to harvest the crop.

The tubers are excellent for table use boiled as potatoes or parboiled and pickled in vinegar.

(Per lb. 25c) postpaid; (10 lbs. \$1.00) (100 lbs. \$5.00) f. o. b. here.

No Excuse for Ignorance

With Agriculture taught in the elementary schools, The County Farm Advisor at your call, your state college offering free a six weeks course in agriculture, or a course in any particular branch of agriculture. Or if you cannot spare the time to go to college, the education will come to you by correspondence.

Send to the University of California, College of Agriculture, Berkeley, California. Ask for circular No. 113 entitled Correspondence Courses in Agriculture, by W. G. Hammel.

This circular contains a list of Bulletins and Circulars on other subjects.

When puzzled, see your County Farm Advisor at their office, 357 Court House, Los Angeles, or phone Main 2300 and ask for County Farm Bureau.

If more convenient ask your seedsman.

There is no excuse for ignorance.

GARDENING A SCIENCE—NOT ALL IS CHANCE

The vegetable grower is the greatest speculator in the world, particularly in Southern California, and portions here and there throughout the Southwest. He has all United States for a market during the winter months, and all the arid Southwest in the summer time. He must consider well his soil, be an expert in the selection and use of fertilizers, in the selection of his seed suited to his soil, to his climate, to the time of planting and the market for which he intends to grow. He must know to perfection when to irrigate to cultivate, and when not to do so. He must also know when and how to plow. He must not only keep posted as to market conditions and prices, but must figure ahead on these conditions.

When giving consideration to their approximate yields and values, take into account the cost in labor, irrigation, time to mature, and expense of marketing. All these figure in determining the net profit. Then consider too the adaptability of each crop to your soil and the purpose for which the crop is intended. All must be considered when deciding the advisability of planting field crops.

When in doubt buy Aggeler & Musser's seeds, and always consult AGGELER & MUSSER SEED CO. on all the above subjects. And keep this catalog.

PLANT A HOME GARDEN NOW

Vegetables from the home garden are always the best. No market vegetables ever have the sweetness or flavor of those just gathered from your own back yard garden. You don't need to plant lots of seed; from a few feet of ground a supply of vegetables for a family can be grown. A back yard containing a small, well-cultivated vegetable garden is an ornament to a neighborhood. Be sure to plant a vegetable garden this spring.

A & M Asparagus

REMARKS: No vegetable is more healthful or more palatable than the tender asparagus that appears on the table very early in spring.

Every home garden should have a bed about ten by twenty feet, planting about one hundred roots. This would furnish enough tips from day to day to supply the family table.

Set the rows two feet apart instead of four as for field culture.

Culture for Field Planting

Drill the seed thinly in rows ten inches apart in your seed bed during March and April.

Transplant about January 1st, setting the roots twelve inches apart in furrows four feet apart and twelve inches deep.

Cover with two or three inches of soil, and on top of that three or four inches of well rotted manure thoroughly mixed with soil. This is sufficient for the first season and will produce a marketable crop the following April, possibly March. Continue cutting until the sprouts become too small for the kitchen. Then allow them to grow to full size and spray the whole thoroughly with powdered sulphur during August, using only the best grade. This is to prevent or destroy any mildew, red spider or rust. In November cut the stalks close to the ground and burn them. Fertilize the rows with cheap coarse salt (one ton per acre). Cover the rows in hills like the picture. With proper hoeing and culture the asparagus rows will bear profitably for many years. One pound of seed will grow plants sufficient for one acre.

Market: A large acreage is grown for canneries, and in sections where it can be produced very early it is grown for Eastern markets. It is also very profitable to grow for local market.

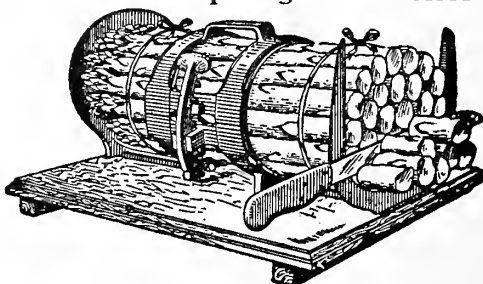
Palmetto The popular variety for the home garden or market. The sprouts are green and their delicious flavor makes this variety the favorite for table use. (Pkt. 7½c) (oz. 10c) (¼ lb. 30c) (lb. \$5c postpaid.)

Asparagus Roots We have all roots of the Palmetto and Argenteuil varieties. Two year old roots—(per doz. 25c) (100 roots \$1.50.) No plants sent by mail.

Argenteuil An excellent variety for the canner and early shipper. This variety is now more extensively grown by large planters and shippers because it is more prolific and stands shipping better. Also its purple tinge is attractive, and its excellent flavor puts it on an equal with the Palmetto for table use.

(Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (lb. \$1.00 postpaid.) Plant Asparagus Roots one foot apart in trenches four feet apart.

Asparagus Buncher



Philadelphia Asparagus Buncher

weighing and the constant loss of over-weight to each pound; besides, this work may be done at home and not at the busy market.

We carry the Philadelphia make, which is the popular one with all large shippers. No. 1 size will shape bunches 3-3½ inches in diameter, weighing about one pound. No. 2 will shape bunches 4-5 inches in diameter, weighing about two pounds. Price—(No. 1, \$2.50) (No. 2, \$2.75) f. o. b. here. Mail wt. 10 lbs.



Argenteuil Asparagus

Whether your patch is small or large, it will pay you to get an Asparagus Buncher, either one or two pound Buncher. All professional shippers put it up that way because it saves the retailer the trouble of

A & M Beans

All mail orders for beans should include additional ten cents per pound to cover postage. All orders for large quantities that would be cheaper to send by express or freight, we deliver to the transportation company at Los Angeles. We do not prepay transportation unless sufficient money has been sent for that purpose.

Market gardeners who are beginners and not familiar with gardening in the Southwest would do well to consult us either in person or by mail before buying, as to variety and time of planting. Special attention should be given to the instructions concerning the time of planting, which is an important factor in Southern California, as each month requires a different variety according to the market for which they are grown.

Bean Culture for Home Gardens

During the early spring give sandy soil preference, but heavy soil in summer. When the ground is properly moistened and pulverized, plant bush beans one or two seeds every four inches, in rows twenty to twenty-four inches apart. If the soil is heavy, cold and wet, one-half inch is deep enough. Plant deeper in sandy soil. During the cool spring months plant shallow; during the hot summer months plant down to moist earth, if it should require five inches. Do not plant in muddy soil, nor irrigate immediately after planting, else the seed will rot. During the winter months do all irrigating in the morning, because the water from the pipe is warm and will help the growth. When applied in the evening the water chills the plants, cools the soil, retards the growth and causes mildew. During hot summer days irrigate or sprinkle in the late afternoon.

Mulch the soil as soon as it gets dry enough after each irrigation. All beans should be sprayed with powdered sulphur of the best grade twice during their season—once before the blossom appears and again just before the green bean is ready to pick. Apply the powdered sulphur in the morning of a bright sunny day before the wind rises, and before the dew has dried. It is not necessary to cover the foliage with sulphur thick enough to injure it, but if sulphur is scattered along the row so that the dust will pass lightly over the field, the fumes created by the heat of the sun will prevent mildew. **Sulphur will not cure, but will arrest and prevent mildew.**

Owing to the enormous demand for commercial beans and the high price attained, it has been difficult to get ranchers to grow seed beans. Heretofore, the growers always received from one to three cents per pound more for seed beans than for commercial beans, but when the prices are advanced three-fold, and the seed of many varieties almost out of existence the price is limited only to what the customer is willing to pay. The dealer cannot control such a condition.

Market gardeners should read carefully the description of each variety.

Anyone having light, sandy soil that needs enriching, should plant it to beans, inoculating the seed with nitrogen culture.

The hand-picking of seed beans is a task of large proportion and it may surprise you to know that we have employed almost throughout the entire year, six or more persons constantly hand-picking beans and peas.

Bush Beans—Round Green Pod Varieties

The following list comprises all the varieties best suited to general gardening. We have ceased to catalog others that would only mislead the gardener.

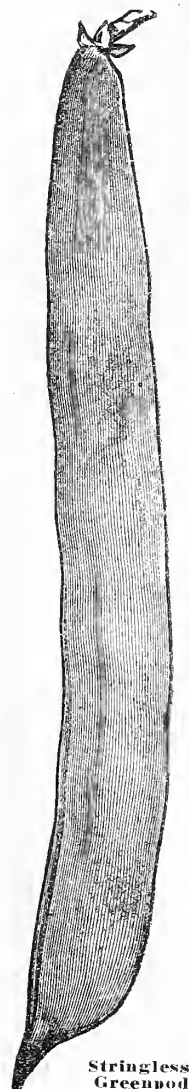
Write for quantity prices on all beans.

Early Refugee or 1000 to 1 An all around favorite for the summer months. Round pod, medium size, tender, desirable for table and cannery. It is a favorite with the market gardener because it is a good shipper, a good seller, and very prolific. Plant from April to August. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

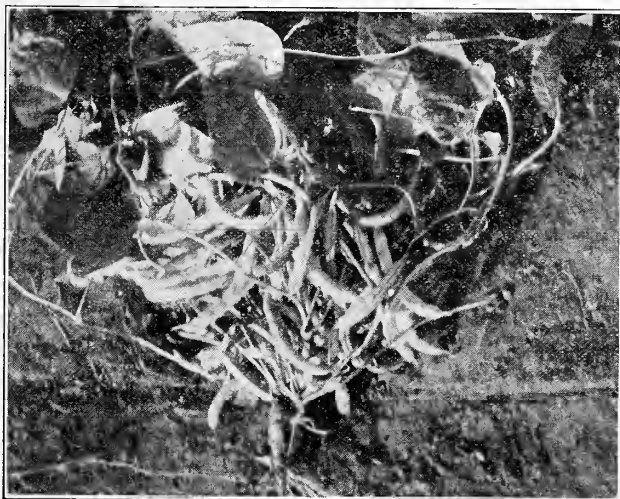
Stringless Refugee This variety is a decided improvement over the old Refugee in that it is entirely stringless, somewhat larger pods and more prolific, which is claiming a great deal, for the Refugee bean has long been considered one of the most prolific of all string beans. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

Stringless Green Pod One of the best varieties for first early spring planting. It is very prolific and tender, a great favorite with market gardeners for a quick maturing crop. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

Gaint Stringless Green Pod Makes an excellent succession to Burpee's Stringless Green-Pod when planted at the same time. The plants are of strong growth; pods slightly curved, quite meaty, being broadly rounded and saddle-backed; brittle and stringless at all stages. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).



Stringless Greenpod



Small White Snap

Black Valentine A very hardy and productive green podded bush bean with strong vigorous bush. It will withstand early and late frosts that kill other varieties. They are perfectly round and straight. It is a splendid sort for a market gardener. Very popular in the South on account of its blight resisting qualities; it is a good shipper. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

Small White Snap

SOMETHING ENTIRELY NEW

THE ALL-PURPOSE BEAN—A white-seeded stringless green-pod bush bean.

Best for green beans because it is tender and stringless, bears continuously for several months when picked closely. The pods are from 5 to 6 inches long, and is a good shipper as a green bean.

Best for dry beans because they are pure white, larger than the Navy, smaller than the Lady Washington; is very prolific (see picture) and does not pop in the field. The bush grows about 12 inches high. None better for canning green or for drying, and none excels it in flavor.

This "All-purpose" Bean may well be termed the "All-round Perfect Bean," for if it has any faults we have not discovered them.

Mr. J. M. Shaw says of it, "I have planted it in Los Angeles County for the last three years and it is all that you claim for it. It gives entire satisfaction and is praised by all who have seen it growing."

(Pkt. 7½c) (¼ lb. 15c) (½ lb. 30c) (lb. 50c) prepaid; (5 lbs. \$2.00).

Flat Green Pod Varieties

Canadian Wonder

Flat pod, of good flavor, not stringless, but otherwise tender. Very hardy. Desired above all others by gardeners growing on the foothills for winter shipping, because of its luxuriant growth and continuous bearing of long, straight pods. Plant in September, October, November, December and January, according to your locality. (Per pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. \$2.75 f. o. b. here).

Six Weeks A strong, rapid grower, which matures quickly. Flat pod. Only desirable for forcing. Plant in February and March, also early in September and October. (Pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. \$2.75 f. o. b. here).

French Mohawk

Long oval pod, very tender and prolific. Matures in six weeks. Desirable for a profitable short crop, as only two months is required from seed time to the end of the crop. Plant every month from March to October. (Per pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. \$2.75 f. o. b. here).

Dwarf Horticultural

Desirable both for green and dried beans. Stringless and of excellent flavor. It is of Italian origin and is very popular with the Italian population. (Pkt. 7½¢) (½ lb. 25¢) (lb. 40¢ prepaid) (10 lbs. \$2.75 f. o. b. here).

Round Yellow Pod Varieties

Stringless or Refugee Wax

This is a favorite because of its hardy growth and enormous yield of tender, round stringless pods of excellent flavor. Plant from April until September. (Per pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50 f. o. b. here).

Prolific Black Wax

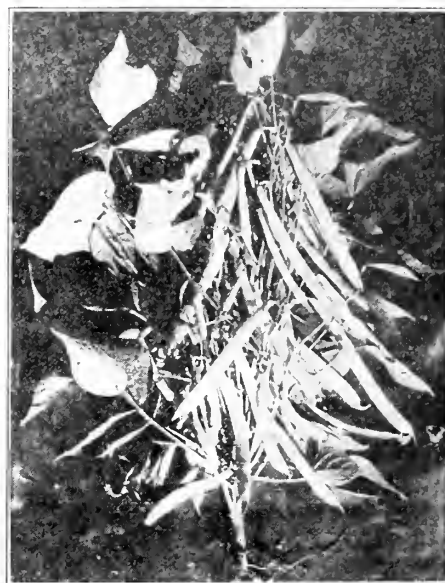
Pod round straight, five to six inches long. Decidedly the most desirable for mid-summer gardening. Plant from April to August. (Per pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50 f. o. b. here).

Canadian Wonder

Flat Yellow Pod Varieties

Our Golden Wax Long, flat pod, rich golden yellow, stringless. This variety is so superior to other strains of Golden Wax that we have discarded all but this. Plant early in April to August. (Pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50 f. o. b. here).

Ventura Wonder Wax Nearly all agree that this is a wonder indeed. Long flat pod, very prolific; bears early, and continues nearly all summer; planted in September, if not too cold, bears until January, being rust proof. This bean was introduced by us in 1900, and has been the market gardener's favorite since that time. Plant from February to October. (Pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50 f. o. b. here). Write for quantity price, as prices fluctuate.



A photograph of one plant
Ventura Wonder Wax

Davis Kidney Wax Good bearer; pods are long, rustless and hardy; very tender when young. (Pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50 f. o. b. here).

"Phoenix, Arizona, June 28, 1917.

Aggeler & Musser Seed Co.

Dear Sirs:—The Davis Kidney Wax Beans that I got from you in the spring are promising so well that I wish to try them as a fall crop. They are in bloom and the pods are setting nicely on the vines and the thermometer ranging from 100 to 110 degrees in the shade. Other varieties that are planted alongside are blighted and the blooms are falling off with the heat.

(Signed) Luther Look."

Beans for the Home Garden

A packet of an early bush variety planted at the same time with a packet of a pole variety and ¼ lb. of Fordhook Bush Lima, will within seven weeks furnish a small family sufficient beans for a period of four weeks.

Therefore, we suggest that you plant on March 1st, Stringless Green Pod, Fordhook Bush Lima, Kentucky Wonder Wax or Kentucky Wonder and Refugee; and on the 1st of each month thereafter until August 1st, after which time give preference to planting Refugee, French Mohawk, Fordhook Limas, because these varieties are more hardy to endure the early winter weather.

Market gardeners should read carefully the description of each variety.

Anyone having light, sandy soil that needs enriching, should plant it to beans, inoculating the seed with nitrogen culture.

GROWING GREEN OR WAX BEANS FOR THE CANNERY
See your cannery about it.

It is a good side-crop to grow in a young orchard to make quick returns because your crop is off and the ground available for another crop within ten weeks.

If your crop is too small for the cannery, and too large to sell by the wayside (see page 2), buy a field canning outfit and put up all your surplus fruits and vegetables.

Baldwin Wonder Wax A very prolific wax-podded variety which we recommend for the home garden and especially for home canning because of the beautiful waxy pods. The round fleshy pods are entirely stringless, very brittle and of exceptionally good quality. Do not fail to include this variety in your home or school garden order. (Pkt. 7½¢) (½ lb. 30¢) (lb. 50¢ prepaid) (10 lbs. \$3.50).

Rust Proof

Mr. A. C. Yingling says, "In my field of Ventura Wonder, were some Navys mixed here and there. The Navys were destroyed with rust but the Venturas were unaffected."

GROWERS WAKE UP

All Eastern United States Is Your Market
The following advertisement appeared in the New York Produce News, Oct. 14, 1917.

MIXED CARS

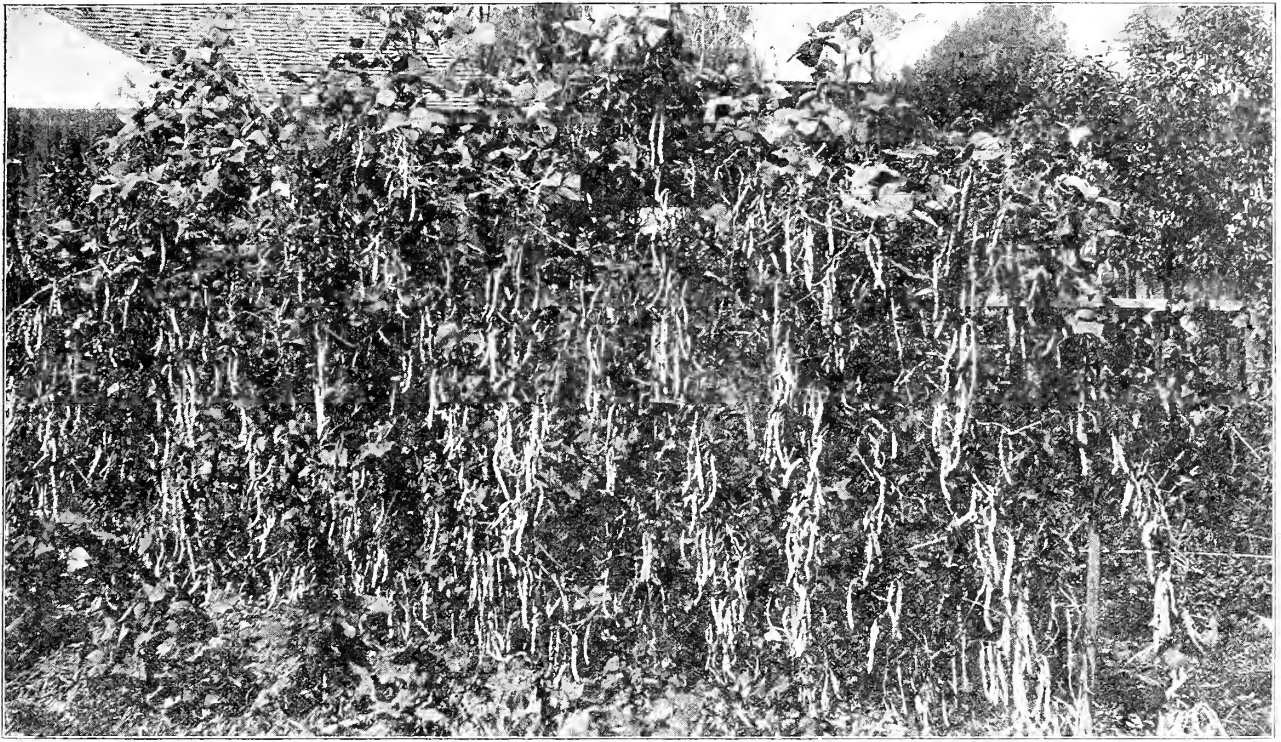
"We can arrange to include the finest Northern California Celery with carlots of assorted vegetables, as Beans, Tomatoes, Lettuce, Cabbage, Cauliflower, Beets, Turnips, Carrots and other vegetables."

(Signed) by a Los Angeles Shipper.

Shipping varlots of assorted vegetables is a comparatively recent innovation, and means to the man with a small acreage a sure outlet for his crops, which in the aggregate amounts to many thousands of dollars to the Little Landers. When you have something to sell during the period from November 1st to May 1st, see the shipper about it.

Pole Beans

This picture shows the first row of Kentucky Wonder Wax, grown from seed of the original sport plant. This is the source of the Kentucky Wonder Wax that now has nation-wide popularity.



A WORD ABOUT POLE BEANS

Many growers hesitate to plant pole beans because of the scarcity of poles. This objection is easily overcome, and the greater profit in growing the pole varieties should be sufficient reason for going to a little extra care. Let the family gardener plant Oregon Evergreen corn early in March, and when the corn is two feet high, plant to every other hill some Kentucky Wonder, or Kentucky Wonder Wax. Thus you will have a crop of early sweet corn and an enormous crop of beans.

Kentucky Wonder Wax The Pride of the Garden. This bean first appeared in the garden of Miss Callahan, on West Twelfth Street, this city. Our attention was called to it in 1898. Investigation proved it to be an entirely new variety. After two years we offered it in small quantities to our customers. Its popularity as a home garden bean soon reached nation-wide proportions, and today is offered by nearly every seedsman in the United States. It commences to bear when scarcely higher than the average bush variety, and keeps on producing until killed by frost. It is a rampant grower, one plant filling a pole with a mass of vines densely loaded with luscious beans. They are firm, entirely stringless, and when cooked deliciously rich and buttery. The seed is brown, closely resembling that of the Kentucky Wonder. Plant from April to August. (Pkt. 7½c) (½ lb. 30c) (lb. 50c postpaid) (10 lbs. \$3.50 f. o. b. here).

Horticultural Pole Also referred to as Romaine, Cranberry, Italian and Cornfield. Its large succulent tender pods make it a desirable bean for the table. It is also one of the most desirable green shelled beans for succotash and excellent as a dry bean. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid).

White Crease Back This variety is especially valuable for its extreme earliness, and its habit of perfecting all its pods at the same time. Vines small but vigorous, and, in good soil, wonderfully productive, bearing pods in clusters from four to twelve. Pods medium length, silvery green, of the best quality as snaps and stand shipping better than most sorts. The seed is small, oval, very white and hard. It is an excellent bean to cook dry or to sell on the open market as the small white bean. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

Kentucky Wonder Long, round pod. This is the most popular bean in Southern California, because here it grows to perfection; is more prolific than any other variety, which, together with its other good qualities, makes it the gardener's delight. Plant from April to July. Do not plant later than August, as it is very prone to rust during the month of September. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

LITTLE LANDERS

There is no home life so contented and happy as that of

the Little Landers. These homes are in evidence everywhere in Southern California where there is easy access by street railway. The automobile is also contributing largely to the encouragement of the Little Landers. Go in any direction around Los Angeles and you will see well-kept cozy little homes on from one-half to five-acre plots. These are the "Little Landers" and many of them are making a good living on their little land.

There are many publications that may well be entitled "Helps to the Little Landers." Their pages are full of hints and information which constantly brings up new ideas that break the monotony of life and often add real dollars to the bank account.

We frequently receive inquiries asking that we recommend some publication devoted to various phases of ranch life. To such inquiries we take pleasure in making mention of the many efficient journals published in the southwest, of which we have a list prepared to answer such inquiries. Write the Dept. of Agriculture, Wash., D. C. Ask for Farmer's Bulletin No. 255, entitled "The Home Vegetable Garden."



A good way to train all Pole Beans

POLE BEANS—(Continued)

White Seeded Kentucky Wonder

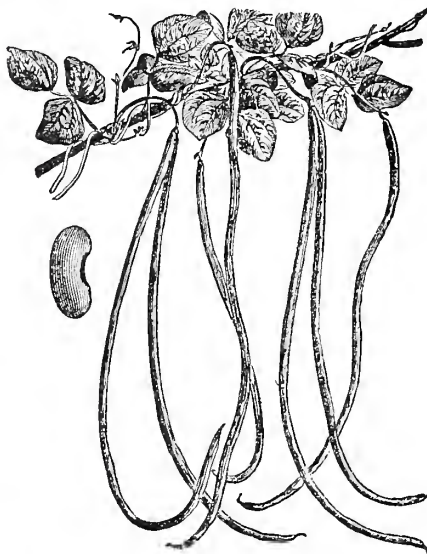
This variety of the many pole beans may truly be termed the Market Gardener's Money-Maker. It is as hardy and rust-resistant as the Canadian Wonder or Black Valentine, yet tender as the Old Homestead. In the South where earliness and lateness mean so much to the market gardener, the White Seeded Kentucky Wonder is far ahead of other varieties. It is enormously prolific of firm pods that withstand shipping to almost any part of the United States. It matures ten days earlier than the Brown Seeded Kentucky Wonder. The seed is pure white, and on that account is a profitable commercial bean. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).

Spreckled Kentucky Wonder or**Cornfield Beans**

This is an old-time favorite throughout the East, where almost every home gardener and market gardener will plant some of these beans in the cornfield just after the corn has received the last cultivation, planting one hill at every other stalk in every other row, and as soon as the green corn has been marketed, the bare stalks are cut out, leaving a wonderfully prolific patch of beans that are very profitable at that late season. We believe it would be quite profitable if our market gardeners would pursue that method here.

The Cornfield bean has a green pod resembling in length the Kentucky Wonder, but is larger and broader. It is entirely stringless and much more resistant to mildew and rust than other varieties. The seed is a light buff color, striped with brown.

(Pkt. 7½c) (½ lb. 20c) (lb. 30c postpaid) (10 lbs. \$2.00 f. o. b. here).

Celestial or Yard Long

Yard Long Bean

A good table bean as well as a curiosity. It is very prolific and a rank grower. Should have ample arbor to climb upon. It should be grown more extensively in the home garden. It is of Chinese origin and one of the best vegetables emanating from that source. It is also absolutely rust-proof. (Pkt. 15c) (1 oz. 30c postpaid).

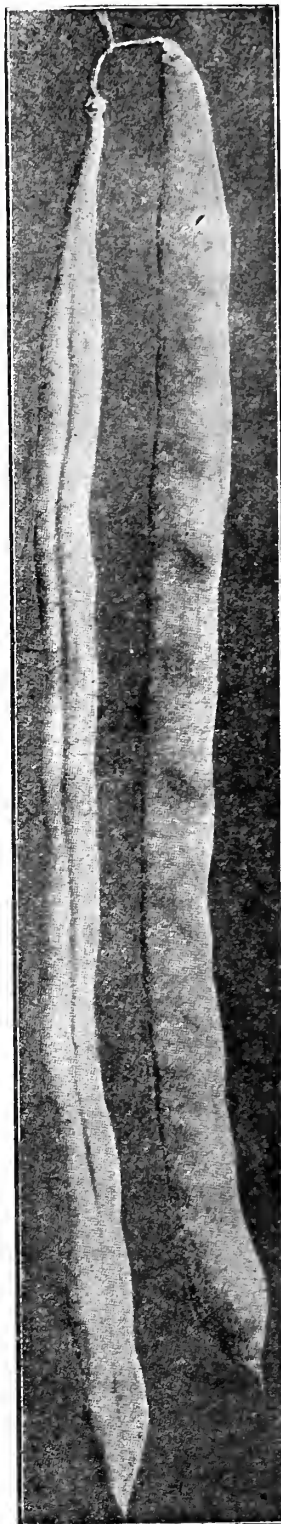
Superior Kentucky Wonder

We have been growing this bean on our trial grounds for two years, and are now convinced it is superior to any of the other Kentucky Wonder types offered by us.

The illustration on this page is from a photograph of a single matured vine showing its immense prolificness. The large size pods fill perfectly and in the "snap" stage are deep green color, meaty, stringless and of delicious flavor. Vines continue to bear immense quantities throughout the season if kept picked closely. When allowed to ripen the shell beans of pure white color are most excellent for winter use. It is a pole snap bean that no home garden should be without. It's the one pole bean for any garden and you will never regret planting it. It will prove a prize winner in any contest.

Mr. Phillippi writes: "You have made no mistake in offering the Superior Kentucky Wonder. You cannot say too much in praise of it."

(Pkt. 7½c) (½ lb. 25c) (lb. 40c postpaid) (10 lbs. \$2.75 f. o. b. here).



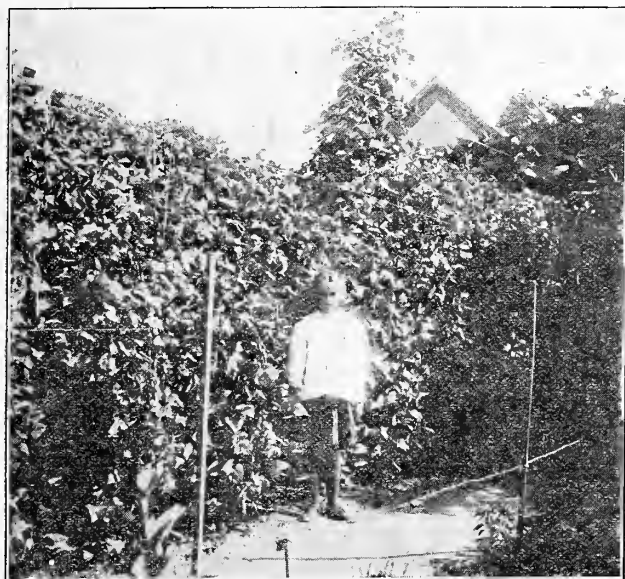
White Seed Kentucky Wonder



Superior Kentucky Wonder

POLE BEANS—(Continued)

Lazy Wife One of the best pole beans for snaps. The large, fleshy pods are five to six inches long and entirely stringless when young, have a rich buttery flavor. When nearly matured they are delicious when shelled and cooked while yet green. The dry beans, too, are unsurpassed by any. The seed is white, nearly round, and some larger than a pea. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid) (10 lbs. \$2.75 f. o. b. here).



The Scarlet Runner as an Arbor Bean

The Scarlet Runner An old-time favorite that heretofore has been planted chiefly for ornamental purposes. But few people know that the Scarlet Runner may be planted May 1st and in six weeks attain a height of eight feet, and rapidly cover an arbor with vines twenty feet long.

The Scarlet Runner is constantly bearing beautiful scarlet blossoms. The vines are positively rust proof.

The Scarlet Runner pod is one of the best green beans in the world when sliced and cooked as any other green bean. They are also a splendid shell bean.

The Scarlet Runner planted May 1st will bear edible pods from July 1st until late fall. When the vines mildew trim them back to within a foot of the ground. The roots will survive the winter, and by the following May will have the arbor again covered and bear green beans until August when the vines again mildew. Cut back as before and with proper irrigation they will bear another crop in October, and so on two crops a year indefinitely.

Be sure to build a permanent arbor, and plant some Scarlet Runner during April.

(Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid.

The Arbor Bean This bean is new to the American people, but popular in Sunny Italy, where it is grown in many back yards over arbors to shade a porch or window. What has been said of the Scarlet Runner applies also to the Arbor Bean. But bear in mind, it is a more rapid grower the second and succeeding years than the first. Like the Scarlet Runner it is excellent for table use. (Pkt. 10c) (¼ lb. 25c).

Los Angeles Wonder This new lima proved to be all that we claimed for it when we first offered it. "It is far ahead of the Burpee's Bush for green beans, and will yield twice as many sacks of dry beans as the common lima. The beans are very large, and in flavor equal to the Monstrous Lima."

(Pkt. 7½c) (¼ lb. 15c) (½ lb. 30c) (lb. 50c) postpaid; (5 lbs. \$2.00 f. o. b. here).

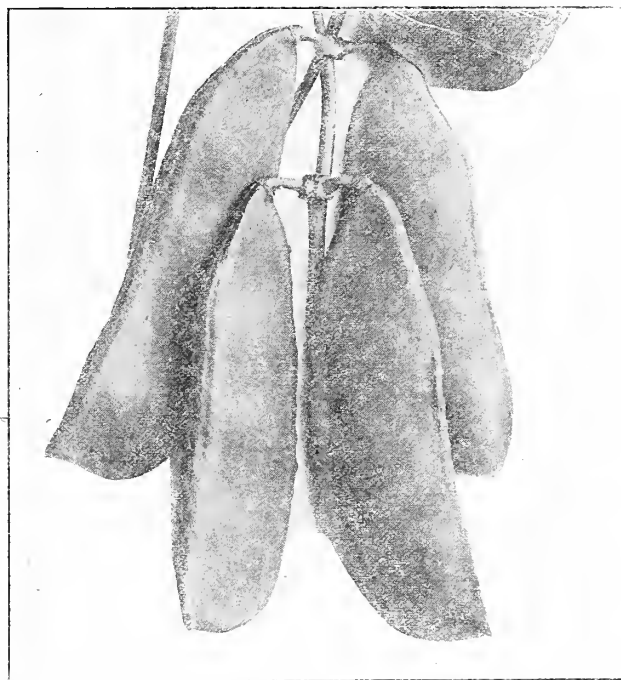
Bush Lima Beans

SPECIAL FOR MARKET GARDENERS

The Bush Lima cannot be recommended too highly. The beans can be grown and gathered much more easily than the pole limas as the vines require no support. They can also be grown closer together. Dwarf limas are fully equal in quality to pole limas and as a rule are earlier maturing.

Limas require a longer season for maturing than other garden beans. Do not plant till the ground is dry, weather warm and danger of frost is over. If possible select rich, light soil. Plant in drills two to three feet apart, dropping the beans three to four inches apart and covering one and one-half to two inches deep. Hoe often, but only when the leaves are dry.

Fordhook is the Gardner's Favorite



Fordhook

Fordhook Bush Lima In order to get the best results, plant one foot apart in rows 3½ feet apart. Although this bean has been offered for several years, it is comparatively a new variety. It is an improvement over the well known bush Lima because it is more prolific. It is a strong grower, more resistant to blight, and is more profitable to grow for the market because the pods remain green. This is of great advantage to the peddler, retailer and shipper. It has received universal praise. We recommend it to our customers for both home and market gardens,—for the home garden because of its excellent flavor and productiveness; for the market gardener because it is demanded by the shipper. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

Improved Bush Lima This bean differs from the old bush variety in being ten days earlier. Will yield one-fourth more tonnage per acre. The pods contain four to five beans that are larger and thicker than the old bush lima. Where the Improved Bush Lima is known the old variety is no longer in demand. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

Henderson's Bush—Small white Lima Bean, of excellent flavor and enormously prolific. It is grown so extensively here that it ranks commercially with common limas and other commercial varieties. It is used largely for canning. (Pkt. 7½c) (½ lb. 25c) (lb. 40c prepaid). Ask for quantity price.

Burpee's Bush Lima—This bean has become very popular with the market gardener in all irrigation districts because it is earlier and more easily grown. There are no vines in the way when irrigating and cultivating. It is enormously prolific and keeps bearing a long time. (Pkt. 7½c) (½ lb. 30c) (lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

A Little Hint to the Newcomer

You have purchased your land, but you are all at sea about season. What to plant and when to plant it is a puzzle; just read this catalog, and you will find the answer. But that is not all; you want more advice. Well, just write us, stating the nature of your ranch with regard to the following conditions,—sandy, loam, adobe, swamp, mesa, foothill, irrigation, acreage, and proximity to market. Are you a gardener or rancher? We may advise you to plant beans in the fall during September and November. When they are marketed plant potatoes or corn (as your conditions may suggest). When this crop is harvested plant potatoes again and casabas. Thus you will have three crops within twelve months. Such information is often a surprise to the newcomer, but the great Southwest is full of surprises and great possibilities.

As soon as you have learned the trick, you are one of "us," and your letters home will cause your friends to say: "There is another California prevaricator." You just can't make them believe it until they come.

Write to College of Agriculture, Berkeley, Cal., for Circular 121, entitled "Some Things the Prospective Settler Should Know."

The Monstrous Bush Lima

A Great Money-Maker

Two crops a year for many years. Originated in Orange County, Cal. Introduced by us in 1907. This picture shows actual growth of the bean.

In addition to this we have numerous testimonials to the effect that we have not exaggerated when we claim this to be the largest, most prolific, most profitable and best flavored Lima bean now in existence. Like every other vegetable, it must have proper culture. Plant 6 feet by 6 feet, leaving one stalk in each hill. If convenient, plant in a sheltered place about April 1st. You will then be gathering beans during September and possibly until January, and when frost has destroyed the tender growth, prune as you would a grape vine. Soon new growth will appear and by May 1st you have a new crop as profitable as peppers or string beans or any other early vegetable. During July the vines will show age and become mildewed; prune as before and in October you will begin gathering your third crop. Continue pruning twice a year; irrigate and fertilize. (Pkt. 15c) (¼ lb. 20c) (½ lb. 35c) (1 lb. 60c) (10 lbs. \$4.50 f. o. b. here).

There is nothing more profitable in a city garden than a dozen stalks of this wonderful bean. It is a common occurrence for our city customers to tell us of its great productiveness and excellent flavor.

One home gardener writes us that from one pound of seed planted in 1912 he gathered forty-two pounds of dry beans, besides all the green beans the family could use, and in 1913 he planted five pounds dry beans, and the vines were then beginning to bear a second crop.



Monstrous Lima

This picture shows the enormous growth of the plants of the Monstrous Lima Beans. The stakes are seven feet tall. The vines are tied to the stakes because this is not a climbing vine but a bush.

ATTENTION MARKET GARDENERS

If you are located in a nearly frostless section and have water available for irrigation, we do not think there is any more profitable crop for you to plant than the Monstrous Lima. Two crops a year indefinitely, about \$600.00 per acre each year. You will have green beans when all other varieties are out. Do not hesitate to accept this advice for its truth has been demonstrated.

Year after year we have new testimonials portraying the wonders of this wonderful bean. One grower near Redondo now claims to have picked more than seven hundred pods from one vine. Another Redondo grower realized \$260.00 off of ¾ of an acre from second crop during June and July, pruned the vines and began picking the third crop early in October.

READ

"I want to say a word for the Monstrous Bush Lima Beans. They were the best lima beans I ever tasted. Had lovely beans for Thanksgiving, Christmas and New Year's. Had friends from the East and they thought the bushes the finest as well as the beans. Picked the last mess Jan. 10th, 1916, but not the last on the vines, as they were loaded, but one night the frost was a little too heavy, so we trimmed them to get ready for the early crop. Thanking you for advising the special kind. Mrs. Frank J. Lightfoot."

Limas, Pole Varieties

Write for quantity price

Pole Lima Pole varieties of Limas are far more profitable to grow than the bush varieties; what they lack in earliness they make up in continuous bearing. They should be planted from April 1st until September 1st.

The Skillman Lima This bean has been the market gardener's favorite for many years. It is a cross between the Burpee's Bush and the common lima. It will produce five sacks more per acre than the common lima. Each year we carefully hand-pick our seed stock, selecting only the true type of seed. There are no rattlers in the Skillman. (Per pkt. 7½c) (½ lb. 30c) (1 lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

Large White Lima One of the best shell beans, either green or dried. Very prolific; pods large. (Per pkt. 7½c) (½ lb. 30c) (1 lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

King of the Garden Very prolific; large and desirable both for the home garden and for the market gardener. (Per pkt. 7½c) (½ lb. 30c) (1 lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

Carpenteria This is just the lima for the market gardener to grow for main crop. It is early and large, and enormously prolific, without much vine. (Pkt. 7½c) (½ lb. 30c) (1 lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

Early Leviathan We recommend this variety to be planted where it may have a trellis to climb upon. It is the ideal lima for the home garden. It is very productive. The pods grow in clusters. (Pkt. 7½c) (½ lb. 30c) (1 lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

SOME BEAN PATCH

A grower who is too modest to permit the publication of his name, remarked to us that in the fall of 1916 he sold his bean crop at five cents per pound and realized a gross receipt of \$100,000.00 which gave him a good profit upon his investment.

In the fall of 1917 he sold his crop from approximately the same acreage, with slightly increased expense, at ten cents per pound, and realized a gross receipt of \$260,000.00.

The extra \$100,000.00 was invested in Liberty Bonds.

A HINT TO THE RANCHER

The cold storage man conserves only perishable produce. You cannot very well do that.

The warehouse man conserves products that are not readily perishable, such as potatoes, beans and grains of all kinds.

Would it not be advisable for you, if you can afford it, to be both grower and middle-man. If you can afford to do so, grow such crops as can be warehoused. Don't sell at harvest time, but hold until the time of advance and get the benefit that goes to the middle-man. If you cannot afford it, don't complain; be industrious and the day will come when you can afford to do so.

W. G. SMITH, California

I received your valuable twenty-fifth Annual Catalog on time, and have looked it over. It is a very valuable, instructive and artistic reference on the subjects treated.

CHAS. P. DADMUN, California

I think your catalog is the best I have ever seen. I have seen louder ones but none that seem to help the amateur to grow as well as sell.

H. V. KIMBERLIN, California

We take occasion to compliment your firm on getting up such a fine catalog of improved garden and field seeds.

HERMAN F. HEINKEL, California

I am in receipt of your catalog which is the best I have ever received from any seed company and desire to thank you for same.

IMPERIAL VALLEY

To our many patrons living in Imperial Valley, and wishing to seek further information concerning your possibilities we advise you to write, College of Agriculture, University of California, Berkeley, Cal., ask for Circular No. 159, entitled "Agriculture in the Imperial Valley" by Walter E. Packard.

In order that you may keep posted up to the minute we suggest that you write, College of Agriculture, University of California, Berkeley, Cal., for Circular No. 190, entitled "Agricultural Clubs in California."

Broad Windsor—(See page —.) (Pkt. 10c) (1 lb. 30c post-paid). Write for quantity price.

Commercial Beans

Write for Quantity Price

BEAN CULTURE. In our 1918 catalog we included nearly two pages devoted to this subject, but since then the University of California has issued a Bulletin No. 294 edited by Professor G. W. Hendry. It is thoroughly Californian and complete in every detail from preparation of the soil, planting, cultivating, harvesting and marketing.

If you are interested even in a small way it will prove both interesting and valuable.

Address: College of Agriculture, University of California, Berkeley, California. Ask for Bulletin No. 294, entitled, Bean Culture in California.

Also write: United States Department of Agriculture, Washington, D. C., for Farmer's Bulletin No. 907. It contains some practical illustrations. They will be sent free.

Reading from left to right:—Broad Windsor, Lewis Lima, Henderson Lima, Red Kidney, Pinto, Pink, Garvanza, Mexican Red, Blackeye, Lady Washington, Navy, Tepary, Soy, Lentil.



We have many inquiries from would-be growers for land suitable for growing beans. If you have any such land you wish to rent for one crop, we suggest that you list it with us. We may have an opportunity to send you a desirable renter.

Be sure to consult us when in the market for these varieties.

If only one pound is desired, send 35c to cover packing and postage. For larger quantities, ask for the prevailing prices.

The season of 1918 will be recorded in history as one of exceptional damage by rust. Never before have we heard such widespread complaint. The acreage destroyed was enormous. It clearly demonstrated that some varieties were much more resistant and that those varieties that were planted early, fared much better than the later planting.

Ask for price at the time of purchase. Because of the close margin at which this seed is sold, no price can be set in advance of the daily market. We have the best cleaning facilities on the Coast. All our seed is re-cleaned and even hand-picked when machinery fails.

MARKETING. If you have not contracted with some buyer in advance for your crop, when ready to sell send or bring a sample to us and we will endeavor to put you in touch with a buyer and post you concerning the market.

All commercial beans should be planted in large acreage. It is easier at any time to dispose of a carload than less, and more profitable to the out-of-the-way grower who must always pay the freight to some central warehouse. It is advisable for the small rancher when contemplating the planting of beans, to agree with his neighbors to jointly plant not less than eighty acres, as it requires 80,000 pounds to make up a carload for Eastern shipment.

It often requires fifty cents per hundred pounds to ship small quantities to a warehouse, whereas a carload would be shipped direct from your nearest siding at no cost to you, thereby saving to you and your neighbors four hundred dollars on each carload.

SOUTHERN CALIFORNIA, THE LARGEST BEAN-GROWING SECTION IN THE WORLD.

Where values are counted by millions of dollars, you should not be negligent in the selection of seed stock, nor in the method of cultivation. It is the purpose of these pages to give information and assistance that will benefit the inexperienced grower.

Massachusetts Snow Drop In appearance is like the Lady Washington. It was first grown here about four years ago, since which time it has steadily grown in popularity. Mr. Geo. Trapp of Norwalk says: "It yielded 20 sacks per acre, which is more than I ever got from any other small white bean, besides it was planted on a piece of ground so worthless I would not have planted it to anything else." It is of purest white color and equal to, or better than the other small whites for the table. Be sure to plant enough of this bean to grow a seed supply for next year.

Broad Windsor (Vicia Faba) Sometimes called a tree bean because of its upright growth, bearing its pods at the axil of every leaf. It is sometimes called Horse Bean. Cooked as a shell bean it is very good for table use, and is grown largely and sold at the public market for that purpose. Owing to the succulency of its stalks and its productiveness, there is nothing better to grow for healthy hog pasture, and owing to its propensity for gathering nitrogen, it is one of the best soil renovators.

The proper time to plant is in September. It will withstand frost and a temperature cold enough to form thin ice. Drill in rows as lima beans, using about fifty pounds per acre. It yields about two tons and sells for about four dollars per hundred pounds.

Henderson Bush Bean This is a small white lima that is grown largely for canneries. It is advisable to secure a contract before planting. It is hardier than other limas, and will thrive under conditions that will cause others to fail.

The Lewis Lima The common lima is grown so largely in California that it easily exceeds in acreage all the other varieties combined. There are many strains of the common limas, but the Lewis is conceded to be the best. Our seed is all carefully rogued in the field and hand-picked under our supervision at our warehouse. You will find no splits nor rattlers in our seed. It is a short-sighted policy to buy cheap seed from grocers.

Tepary A small white bean similar to the Navy.

The Agricultural Experiment Department has recognized the great merit of the Tepary as a drought resistant bean, and recommended it to be grown on the mesa lands where it is too hot and dry for our common varieties to grow. It is also recommended for a summer cover crop and soil renovator, as it needs no irrigation. It yields 20 to 30 sacks of dry beans per acre. The vines should be handled when damp to avoid loss by shelling.

TEPARY and Navy planted in the same field early in June, Tepary had matured a full crop by Aug. 1st. The Navy was without a bean or flower. A hot spell destroyed the Navy but the Tepary had already set the bean and had passed the danger period.

Pink, Mexican Red, Red Kidney All three of these varieties are good table beans. The **PINK** is grown more largely because it is more profitable to the grower and finds ready sale. The **MEXICAN RED** is the popular bean in Mexico, and should be grown more largely here. As a table bean it is excellent, both as a dry bean and as a green shell bean, and will become more popular as it becomes better known. The **RED KIDNEY** is an old-time favorite and commands a higher price than other varieties. It is more hardy and more rust-resistant. The pods are long and straight, bearing six to eight beans. It is particularly easy to thresh, yet does not pop in the field.

The Blackeye This bean is always profitable to the grower because it yields 1500 to 2500 pounds per acre without irrigation, and on almost any kind of soil. It is a good cover crop and soil renovator. The beans find ready market at a fair price, but usually below that of other varieties. Rabbits will not eat the Blackeye.

French White was introduced at Vista, San Diego County, in 1902, by Mr. Peter Delpy, who brought the seed from France. It at once became popular locally because it is earlier and more prolific than the Lady Washington which it resembles. It is a more rampant grower. The pods are tender and stringless.

Lady Washington and Navy These two varieties go hand in hand. Both are small white beans, but the Navy is slightly smaller and is often distinguished by being called the Small White, while the Lady Washington is called the Large White, yet the largest is a scant half-inch long, while the Navy is scarcely more than one-fourth inch long. The Navy is more rust resistant.

Blue Pod Navy While this bean is no kin to the Navy bean, we have so named it that the reader may have some description of it. It is earlier and more prolific than the Navy, which the dry bean so much resembles. The vine grows to a length of six feet and the pods are decidedly blue. They are also tender and good to eat as snapbeans.

BLUE POD NAVY thrives better near the coast in the fog belt. We advise against planting it where the temperature becomes excessively hot at time of blooming.

COMMERCIAL BEANS—(Continued)



Soy Bean

Soy Bean

Although this bean has been grown in the United States for more than one hundred years, it has been grown largely only in the East. The annual consumption within the United States exceeds in value more than \$10,000,000. R. A. Oakley, agronomist in charge of the seed distribution, Bureau of Plant Industry, estimates that 460,000 acres have been planted to Soy Beans within the United States during the year 1917. California has let this important product of the soil go unnoticed. Manchuria alone exported in 1914 65,000 tons of Soy Bean Oil, 907,000 tons of Soy Bean Cake and 280,000 tons of Beans.

Soil requirements for growing the Soy Bean is much the same as for Corn.

Yield of forage is greater on rich soil while the yield of seed is greater on poorer soil.

Deep plowing, firm seed bed and freedom from weeds, are all necessary for success.

Planting in drills is strongly recommended. This will enable the field to be cultivated which is absolutely necessary in case of weeds.

Forty pounds of beans planted two to three inches apart in drills 30 to 36 inches apart, is sufficient seed for two to three acres.

Soy Beans may be planted from early Spring until mid-summer. Excellent results have been obtained by planting one or two beans in every other hill of corn.

In localities where the Soy Bean has never been cultivated, inoculation is advised.

There are many varieties of Soy Beans, some of little value for seed or forage. The Mammoth Yellow is the most popular, and we consider them the best since they produce two to three tons of hay per acre and ten to twenty-five bushels of seed.

Unlike Cow Peas, Soy Beans mature all their pods at the same time.

Soy Beans will withstand frost when young or when nearly matured, that would be fatal to Cow Peas.

The Tennessee Agricultural Experimental Station states the feed value of Soy Beans for beef cattle is about double that of Cow Peas.

Soy Bean hay is practically identical in feeding value with Alfalfa.

For further information, we refer you to the United States Department of Agriculture, Farmer's Bulletin No. 372.

Pinto Bean The bean that made New Mexico famous and added much to the wealth of that state. The 1917 crop in New Mexico alone estimated at 50,000,000 pounds.

One thousand carloads valued at four million dollars (\$4,000,000) \$90.00 per acre average.

It will greatly surprise you to learn that the Pinto bean is now next to the white bean in acreage, there having been more than 350,000 acres planted in 1917. This bean is taking well on dry land in the western part of the Great Plains, and its acreage has increased phenomenally in the past two years. The seed requirements now are about 6,000,000 pounds.

The Pinto thrives particularly well in higher altitudes where about fourteen inches of rain is the season's average.

The Pinto grows a bush like the Pink Bean. For an inland crop it is preferable to the Tepary because of a larger yield per acre and finds a ready market.

Along the Coast the fields from American-grown Pinto seed rusted abnormally while the fields grown from Siberian seed did not rust.

Nicaragua Small White Nicaragua. This bean was brought to us direct from Nicaragua by Mr. H. L. Smith. It is sure to displace the local Tepary because it is uniformly white, and has none of that peculiar flavor. It is better than the Navy and easier to cook.

There is only a limited supply of seed here and it will be necessary for us to reserve a quantity for growing our next year's seed supply. If interested in this new bean write or call at our office.

Its excellent flavor and the ease with which it is cooked is destined to make it a valuable bean for the canners. This will bring such a ready market that it would not be surprising if this bean would not only supersede the Tepary but the Navy as well.

Read what one Nicaraguan grower says of it:

Gentlemen: As you have shown much interest in the possibilities of the Small White Nicaragua Bean for planting in the drier parts of this state, the following remarks relative to the conditions under which the variety is grown in its native country may be of value.

Planting of this kind of bean in Nicaragua is principally confined to the hot plains of the west coast of the republic and as a dry season crop only. Hemmed in by active volcanic cones on every side, these plains are composed of a recent volcanic ash of a black or leaden color and which when crumbled in the hand has the appearance and texture of coarse sand, mixed, however, with enough finer material to make it extremely dusty in the dry season. While very fertile this soil is too porous to supply sufficient moisture for most crops except in the rainy season when heavy showers are of daily occurrence and the vegetation luxuriant. A short spell of dry weather, however, soon parches the country. Water sinks through the soil as through a sieve and the surface shows dry and dusty only a few hours after a tropical deluge. It will be readily understood, therefore why, in spite of the copious precipitation during half of the year, practically arid conditions prevail during the months when no rain at all falls.

The Small White Nicaraguas are planted soon after the last rains of the season and mature in about sixty days' time. Preparation of the soil is crude in the extreme, the surface being merely scratched to the depth of two or three inches by means of a Spanish "blow" (a forked stick tied to the horns of a pair of oxen). In new clearings even this poor preparation is dispensed with, the seed simply being dropped into holes made with a sharp stick. Cultivation of the growing crop is confined to a little haphazard weeding—if and when the native happens to feel like it.

As few Nicaraguans have much idea as to what acreage they have under cultivation it is a little difficult to ascertain the yield, but the more intelligent growers estimate it at about fifteen hundred pounds to the acre, which, considering the methods employed, is an extremely good showing. All growers agree that the Small White Nicaragua produces about double the crop obtained from any other kind of bean grown in Nicaragua—and this notwithstanding that all other kinds are planted as rainy season crops.

Owing to its heat and drought-resistant characteristics and quick-maturing habit, the Nicaragua should prove a valuable acquisition in California. It seems logical that it should thrive in many districts too dry or too hot for the standard navy bean and if it does it will no doubt displace inferior varieties such as the black-eye and tepary.

The great advantage of the Small White Nicaragua over the tepary lies in the fact that, unlike the latter, it is easy to cook and also in its vastly superior eating qualities. In flavor the Nicaragua surpasses all other white beans, having a rich but delicate fresh shell-bean taste which is peculiarly pleasing. Nearly every one who has tried the Nicaragua much prefers it to the navy or the Lady Washington. These good qualities should insure for the new variety a price and market denied the tepary. Another advantage is that the beans are of uniform color, there being no greenish kernels among them.

Very truly yours,

Huhert L. Smith.

Garvanza and Lentil These are not beans, yet they go hand in hand on the market reports with beans, and we have listed them with our commercial beans.

Garvanzas. Planted in April, should be ready to harvest in August. It will endure light frost with little injury. They grow a low branching bush, bearing the pods in the foliage about one foot above the ground. They are prolific, yielding twenty to thirty bean sacks per acre, and always commanding a higher price than beans. Cultivate the same as beans.

Lentils. Should be planted from January to May. They are nearly as hardy as the Winter Vetch, which the vine very much resembles. The Lentil commands a price nearly double that of beans, and will net the grower about the same value. Cultivate the same as peas.

OLIVER L. CONGDON, California

Your catalog at hand. It is what I swear by in the vegetable line.

W. H. HUGHES, Texas

By the way, your catalog is in a class by itself and has more information in it than in all the other seed catalogs combined.

MRS. R. M. DOLVE, Montana

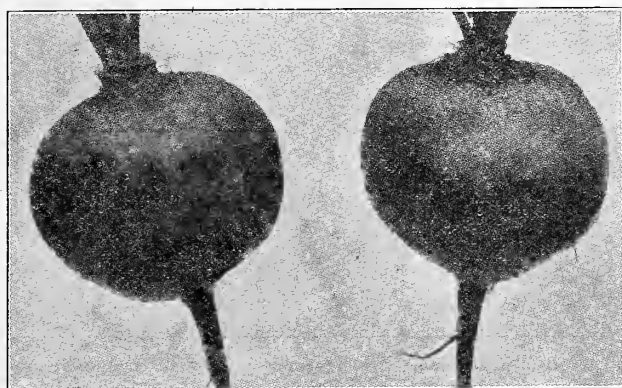
Your catalog certainly is filled from cover to cover with useful information for the amateur gardener. I have been so interested in it and wherever applicable, I am going to apply it to my war garden this year.

A & M Table Beets

MARKET:—Besides the every-day demand at the local market places, there is the seasonable demand from outside points and for this purpose planting should range from August 1st until January 1st. See the shipper for further information. The canneries too use a large acreage. If you are conveniently located you will be fortunate to secure a contract with one of them.

Culture Beets may be planted all the year round where the temperature does not fall below 25 degrees. Sow the seed one inch deep in well prepared, moist soil in rows eight or ten inches apart, or on ridges same as lettuce. Drill twelve pounds of seed per acre. Thin out to one plant every three inches, and transplant the discarded plants in any convenient spot about the garden. The Egyptian is a small, dark red, flat, smooth variety. It is sweetest and best for the table. Irrigate about every two weeks, unless the nature of the soil is such that more frequent irrigation is found to be necessary. Mulch the soil after each irrigation. Beets are ready for use in ten weeks and continue in prime condition for another ten weeks.

Two ounces of seed for 100 feet of row.



Crimson Globe

Crimson Globe This splendid variety has now been grown quite extensively in many sections of the country and the many good reports received from old customers indicate that it gives most thorough satisfaction. It is of medium size, generally about three inches in diameter, very handsome in shape, with a remarkably smooth surface. It has a very small tap-root. Gardeners prefer it for summer planting because the large foliage protects the beet. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.25) (lb. \$2.25).

Eclipse Is a favorite for the family garden, very sweet, tender and of fine texture. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (lb. \$2.00) postpaid.

When beet tops are young and tender they may be cooked as spinach and are as good. The stem may be par-boiled and pickled for immediate use.

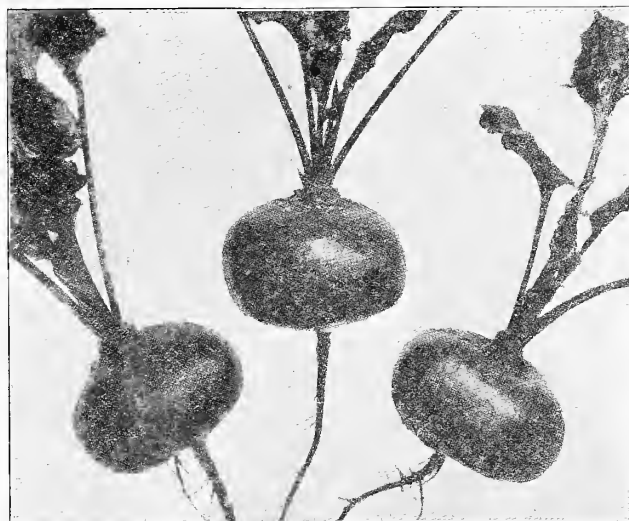
Early Crosby A long time favorite for the family garden. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00).

A Word to Gardeners About Bunch Goods

This term is applied to vegetables that are tied in bunches, viz.—beets, carrots, radishes, turnips, parsnips, bunching onions, salsify, kohlrabi, and spinach. Every one of the above are all-the-year-round vegetables, and every one may be cultivated as lettuce, see page 7. The growing of these vegetables is not only for Los Angeles consumption, but they are shipped with other vegetables in carloads to all parts of the United States. The tops are cut off for shipping.

Keep in mind that Southern California is the winter garden of the United States. Therefore make your big planting of these vegetables, also lettuce, cabbage and cauliflower, in August, September and October.

Read every page of this catalog. Then take good care of it, for you will need it from time to time throughout the year. Therefore keep this book until you get another.



Early Flat Egyptian

Early Flat Egyptian The market gardener's favorite on account of its beautiful appearance, earliness, and excellent flavor. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Early Blood Turnip Of large growth. Flesh very tender and retains its blood-red color when cooked. On account of its tall leaves it is a favorite summer time beet with market gardeners. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Half Long Blood Smooth, growing to good size; color dark red; top small, of upright growth. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

A & M Bassano Beet Excels all other varieties for table use. Its delicious flavor, entire absence of fibre, smooth symmetrical shape and small root puts it in a class by itself for all-round good qualities. The market gardeners have recognized this for years and many will have no other. (Pkt. 7½c) (oz. 25c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Detroit Dark Red This is an ideal beet for all purposes. It cannot be excelled for the table; free from all fibre and very sweet. It is the best of all for pickling. Even the tops are good when pickled. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.25) (lb. \$2.25) postpaid.

J. M. RUSK planted twenty-five acres to Extra Early Flat Egyptian Beet for a cannery, using two hundred pounds of seed. Realized for his crop \$7,137 or \$285.50 per acre. The ground was occupied about four months.

No Excuse for Inefficiency on the Farm

Bulletins and Circulars

Write to the College of Agriculture, Berkeley, Cal., for a bulletin or circular on any agricultural subject in which you are interested.

Write for circular 113 entitled "Correspondence Course in Agriculture." This circular teaches you how to proceed to take correspondence lessons in one or all of thirty-eight different subjects, at no expense to you other than the time spent at interesting reading. Read this free and beneficial literature emanating from Berkeley, and if you still hunger for further information, write the Department of Agriculture, Washington, D. C., for a circular on any agricultural subject on which you desire information. All is free for the asking. (See list of books on page 8.) Read good healthy literature and be a good healthy and respected farmer and philanthropist.

A & M Stock Beets



Golden Tankard Half Sugar Rose Mammoth Long Red Klein Wanzleben Sludstrup Golden Globe
Giant Yellow Intermediate

Note—Prices on half pound and pound quantities include postage or expressage prepaid. When sent otherwise deduct 10 cents per pound or fraction thereof. If desired sent by Parcel Post, necessary postage should be added. See our Parcel Post Schedule on cover page. If quantities are desired, do not fail to write for special prices, as all field seeds are subject to market fluctuations.

Half Sugar Rose A distinct type of Sugar Beet, producing not only a good crop, but roots of giant size and richest feed quality. It has yielded 55 tons per acre, several tons per acre more than the heaviest producers of other sorts on the list. They have a small top, and are easily trimmed. The roots are heavy, but are so easily harvested that they may be up-rooted by a push of the foot. The flesh is white, solid, tender and very sweet and imparts a rich, pleasant flavor to dairy products, when fed to milk cows. Also particularly good for fattening pigs. Half Sugar Rose is a profitable Stock Beet to grow. (Pkt. 7½c) (½ lb. 60c) (lb. \$1.00) postpaid; (10 lbs. \$8.50) f. o. b. here.

Giant Yellow Intermediate A large variety always in favor with dairymen because it is rich, healthful to the stock, yields large tonnage per acre, and easily gathered. (Pkt. 7½c) (½ lb. 60c) (lb. \$1.00) postpaid; (10 lbs. \$8.50) f. o. b. here.

Mammoth Long Red Mangel The largest Stock Beet. Yields 40 to 50 tons to the acre. Will grow in land containing more alkali than any other beet. All stock except horses eat it readily. (Pkt. 7½c) (½ lb. 60c) (lb. \$1.00) postpaid; (10 lbs. \$8.50) f. o. b. here.

Golden Tankard Mangel Contains more sugar and less water than any other Mangel. Rich in milk-producing qualities, hence a favorite with dairymen. Horses will eat it. (Pkt. 7½c) (½ lb. 60c) (lb. \$1.00) postpaid; (10 lbs. \$8.50) f. o. b. here.

Klein Wanzleben (Sugar Beet). This variety is without question the best in cultivation. Not the largest in size, but the richest in saccharine. It will fatten hogs as quickly as grain. (Pkt. 7½c) (oz. 10c) (½ lb. 75c) (lb. \$1.25) postpaid; (10 lbs. \$10.00) f. o. b. here.

MR. CLYDE E. PATTON, Arizona

I keep Aggeler & Musser's catalog alongside of my family Bible at home.

Culture—May be sown all the year round in drills one foot apart. Thin out to stand six inches apart in rows. Keep well cultivated; 8 pounds of mangel, or 10 pounds of sugar beet seed will plant an acre and yield 20 tons or more of beets.

Thirty to forty tons per acre of stock beets is no unusual yield.

Sludstrup This variety is more extensively grown in Holland by dairymen than any other. Its uniform growth of large well-shaped beets rich in saccharine, its record for producing rich milk and sweet butter, has made it the popular beet of that country. We are always on the lookout for something better to offer our trade. We are sure you will add dollars to your dairy by planting the Sludstrup. (Pkt. 7½c) (½ lb. 60c) (lb. \$1.00) postpaid; (10 lbs. \$8.50) f. o. b. here.

Golden Globe Similar to the Golden Tankard but roots deeper. It grows to large size. Its quantity is always satisfactory. (Pkt. 7½c) (oz. 10c) KATE S. JACKSON, Ill.

CHARLES H. TULLY, Arizona

Thanks for catalog sent which is not only useful for the variety of plants and seeds listed in its pages but also for the information given which surpasses any other catalog of those issued by other firms.

KATE S. JACKSON, Illinois

Your catalog is wonderful and you explain everything so simply. I am delighted to have it.

JAMES TANAKA, Hawaii

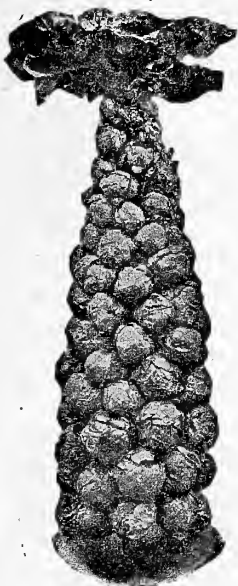
I received your catalog on the 21st, and am very much pleased with it. It was just the kind of catalog I was waiting for.

FROM Patton, California

I suppose you will say, "Here is another guy gone nutty." Well it is all on account of your Catalog. Send the following seeds.

We have in this catalog studiously avoided listing a long line of inferior articles, but we offer only the best of everything, with instructions to the buyer when to plant each certain variety to procure the best results. If the instructions in this catalog are not followed with reasonable accuracy, failures may result. Therefore do not destroy this book as you need it constantly.

A & M Brussels Sprouts A & M Chinese Cabbage



Brussels Sprouts

Culture—Same as Cabbage.
One oz. of seed will produce about 5,000 plants.

For Aphis—Spray with "Black Leaf 40."

This excellent vegetable, considered the most delicious of all the cabbage family, is finding increased demand in the public markets, and should be grown more largely. It is a long season grower and ranks as to time with our late varieties of cauliflower. Therefore, seed should be planted for succession from July 1st until Nov. 1st.

The increasing demand has spurred us on to look for something better than has hitherto been offered on this market. We have succeeded in securing a medium dwarf variety that bears larger heads, and every joint a head. (Pkt. 7½c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

Market:—The demand for Brussels Sprouts is probably in excess of the supply, but the cost of production is so high that it must be classed as a luxury. We recommend it highly for the home garden.



Chinese Cabbage

MARKET:—Local retail vegetable stands are earliest shipments to eastern markets.

Culture—Grow it as you do lettuce; transplant 10 inches apart in rows 12 inches apart.

Boiled with beef or pork it is excellent, having a much more pleasing flavor than cabbage. The inner leaves make better cold-slaw. (Pkt. 7½c) (oz. 60c) (¼ lb. \$2.00) (½ lb. \$3.25) (lb. \$6.00) postpaid.

Wake up to a good thing! Flood the Los Angeles market in order that our home people may become acquainted with it. Grow Chinese Cabbage and the demand for it will surprise you. Every home garden should have it.

Our seed is imported. It is the genuine article as pictured here and cannot be compared with the Pe-Tsai seed grown in Europe.

HARRY ERIKSSON, Center, Washington.

The seed of Chinese cabbage I secured from you two years ago, germinated fine, produced a fine crop that sold better than other varieties of lettuce or cabbage. It is the real salad lettuce. I hope the rest of my order does as well.

MRS. JOHN CEDERGRAIN, Hanford, Cal.

I can say your Chinese cabbage is the best of all. We were all so taken with it we can not say enough for it. It is the best of all sorts of cabbage and I do hope to get some more just as good.

A & M St. Valentine Broccoli

Culture and market the same as Cauliflower.

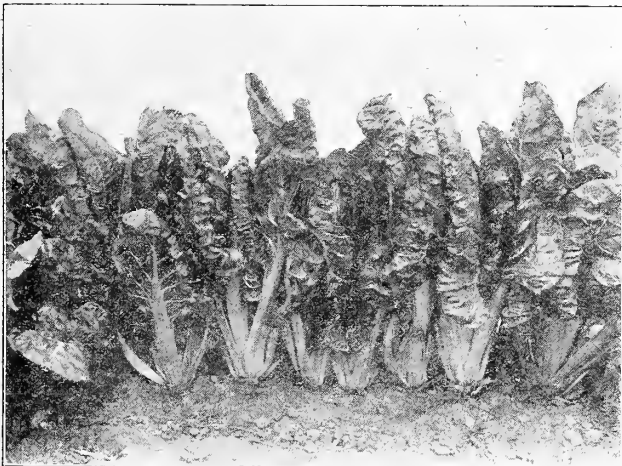
Broccoli (A hardy strain of Cauliflower) is grown largely in Oregon. Eighty-four carloads were shipped from the Umpqua Valley in the Spring of '17. It is much harder than Cauliflower, readily withstanding a temperature of 15 degrees. Planted in July it matures in April, yielding nearly 100 per cent good heads regardless of weather conditions. Large gardeners will do well to plant it.

St. Valentine (A pure white strain) is the best. Our seed is of the English type grown extensively in the north. (Pkt. 30c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00).

White Cape (Pkt. 20c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00).

Purple Cape (Pkt. 20c) (oz. 75c) (¼ lb. \$2.25) (lb. \$7.50).

A & M Swiss Chard



White Swiss Chard

Culture:—Same as for beets; transplant 12 inches apart in rows 18 inches apart.

Grown for its leaves only; one of the best early greens. Cook the leaves as you do spinach and the stems in cream as asparagus. Leaves grow to enormous size, 20 inches to 2 feet in length. The plant is almost perpetual if kept trimmed, but it is better to have a new crop every year. The tender leaves make it a desirable plant for poultry greens; much more desirable than alfalfa, because it can be grown with less care and in any convenient place about the premises. Try it for your hens.

Lucullus (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.20) (lb. \$2.00) postpaid.

White Swiss (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.20) (lb. \$2.00) postpaid.

For the Cabbage Worms—We do not hesitate to recommend Paris Green to be used up to two weeks before marketing the cabbage, because the spray only reaches the outer leaves that are not eaten, and because within two weeks the elements neutralize the poison. Also when only one tablespoonful of Paris Green is mixed with four gallons of water and kept well agitated there could not possibly be poison enough on a head of cabbage to even make anyone sick.

Mr. Smith, Demonstrator for the Home Garden Committee at the Examiner Garden, says there is nothing like Paris Green to clear the cabbage of both aphids and worms.

For Aphis—Spray with Black Leaf 40. Directions: One tablespoonful to two gallons of water. Add about ¼ lb. of soap.

NOTICE NOTICE NOTICE
Do not fail to read all foot-notes at the bottom of the page; they are there to fill up space, but they are also full of information, valuable to you. Keep this catalog, you will need it all the year.

A & M Cabbage

Write University of California, College of Agriculture, Berkeley, Cal., for Circular No. 130, entitled "Cabbage Growing in California" by Stanley S. Rogers.

It should be borne in mind that the big planting of cabbage is intended to meet the eastern demand in midwinter and early spring, and that our time of planting is out of the natural season, and therefore often subjected to unseasonable weather which causes it to be stunted and often shoot to seed. The wonder is that any of it matures.

Improper culture, too, will stunt the normal growth of cabbage and cause the heads to prematurely go to seed.

Culture—The secret to grow hardy plants is to thoroughly prepare the soil in the plant bed. Loosen the soil to a depth of eight or ten inches, pulverize well. Sow in drills not too freely, about one-half inch deep, press the soil firmly over the seed; this is important. In about six weeks transplant in rows three feet apart, one foot in the row for Winnigstadt, eighteen inches for large-heading varieties. Keep the crop well watered and cultivated for when growth is checked the seed head matures and bursts forth as soon as moisture is again applied. This accounts for much cabbage going to seed. Early varieties mature about three and one-half months after transplanting, late varieties in about five months.

Should there be a cold spell when the thermometer lingers below 25 degrees, just at the time the cabbage begins to head, you may expect twenty-five per cent of your crop to shoot to seed.

One large and constant grower says: "November transplanting escapes the hard winter season that causes so much loss by shooting to flower."

Marketing—The everyday demand at the local market should be met with the most palatable varieties like the A. & M. Early Drumhead, Copenhagen Market and Glory of Enkhuizen.

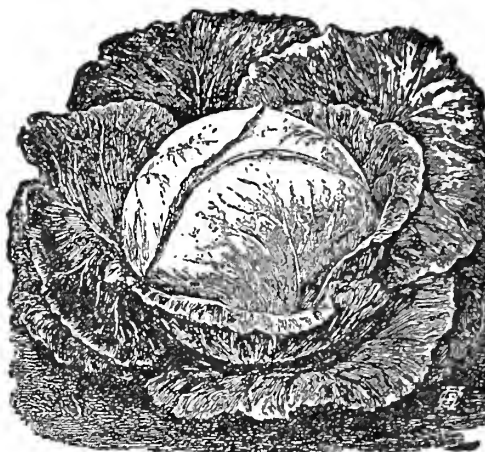
For Liberty Cabbage, plant seed about April 1st of the Large Flat Dutch and the Autumn King. The manufacturer does not want it earlier than October.

The largest acreage is disposed of by the shipper and for this purpose the main planting of seed is October 1st.

Bear in mind that Southern California is the winter garden for the United States.

Winnigstadt No other vegetable listed in our catalog has retained its popularity so continuously and for such a long time as our Quedlinburg strain of Winnigstadt Cabbage, introduced by us in 1896. It is now, and has been ever since that date, the most popular cabbage grown on this Coast. It is popular because it is early, solid, good flavor, sure header, and good shipper. (Pkt. 7½c) (oz. \$1.00) (¼ lb. \$3.35) (½ lb. \$5.50) (lb. \$10.00) postpaid.

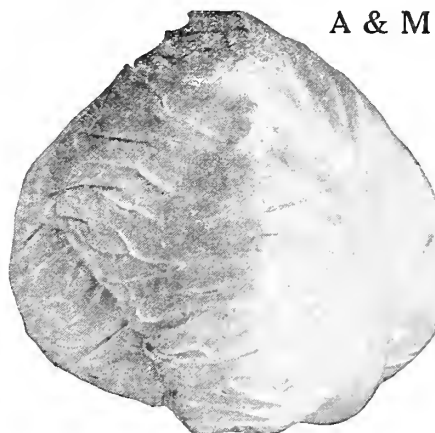
A & M Early Drumhead Year by year this desirable sort becomes more and more popular. It is very early, tender, crisp, and just the right size for the dealer. Truckers like it because every stalk produces a head. (Pkt. 10c) (oz. \$1.00) (¼ lb. \$3.35) (½ lb. \$5.50) (lb. \$10.00) postpaid.



A. & M. Early Drumhead

Danish Bullhead Since our introduction of this short-stemmed type of the Danish Bullhead, it has rapidly grown into popularity with both the grower and the shipper. Why? Because it is a sure header, adaptable to all soils, rarely shoots to seed even in most unfavorable conditions. Heads are solid and uniformly round. It is a good shipper and is not surpassed for table use. (Pkt. 7½c) (oz. \$1.50) (¼ lb. \$5.00) (½ lb. \$8.50) (lb. \$15.00) postpaid.

A & M Scott's Cross



Scott's Cross

The introduction of this cabbage into the Southwest means millions of dollars to the growers. An ordinary average yield of Winnigstadt per acre is eight to ten tons. Scott's Cross will average twelve to fourteen tons of a better grade. This means about fifty dollars per acre more at no greater expense. Scott's Cross is one of the best to grow for shipping. It is a cross between the Winnigstadt and the Flat

Dutch. It promises to outrank the Winnigstadt, but up to the present time there has been some variation as to its type and uneven maturing, but it is such an excellent cabbage because of its hardness that we have contracted with our seed grower to make a perfect type by selection. Our 1918 crop is a perfect type of the Scott's Cross, as pictured here. (Pkt. 25c) (oz. \$2.00) (¼ lb. \$6.65) (½ lb. \$10.00) (lb. \$20.00) postpaid.

Henderson Early Summer A good medium-sized early flat head, very desirable for the table. (Pkt. 7½c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid.

All Seasons The heads are extremely solid, round, flattened on top and ready to market nearly as early as Early Drumhead, while considerably larger in size. It is called "All Seasons," because it is as good for autumn or winter as for early summer. (Pkt. 7½c) (oz. \$1.00) (¼ lb. \$3.35) (½ lb. \$5.50) (lb. \$10.00) postpaid.

Large Late Flat Dutch The standard sort for late crop. A large, sure header. (Pkt. 7½c) (oz. \$1.00) (¼ lb. \$3.35) (½ lb. \$5.50) (lb. \$10.00) postpaid.

Bran Mash for Cut Worms—Paris Green 1 lb., lemons 3, molasses 2 qts., water 3½ gals., bran ½ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly.



Winnigstadt
Twenty-six Years the Standard

Hollander Is one of the best of all the hard heading varieties. The heads are thick, round, of medium size and solid as a rock; of good flavor and heads well in our winter climate. It is a desirable sort for gardeners. (Pkt. 7½c) (oz. \$1.50) (¼ lb. \$5.00) (½ lb. \$8.50) (lb. \$15.00) postpaid.

MR. J. H. BECKHAM says—"I transplanted Glory of Enkhuizen Cabbage, September 20, and began marketing, December 10, just 80 days. At least 90% headed perfectly. None shot a seed. Heads run about 12 lbs."



Glory of Enkhuizen

Glory of Enkhuizen The grower when introducing this variety pronounced it the ideal for the home and for Liberty Cabbage, surpassing all others in excellence of quality and flavor. It is similar in shape and habit to the Danish Ballhead, just ideal for the local market. (Pkt. 7½c) (oz. \$1.00) (¼ lb. \$3.35) (lb. \$10.00).

LIBERTY CABBAGE. From the Arizona agricultural extension service we have the following directions for making Liberty Cabbage:

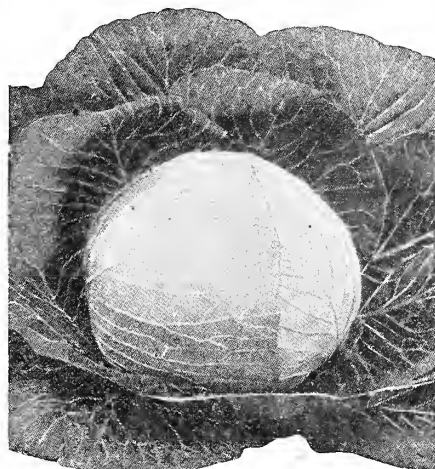
Shred the cabbage finely, using a shredder which cuts it into long thin strips. Have a barrel or keg perfectly clean and well scalded. Mix a pint of sugar and a pint of salt and sprinkle about a tablespoon over the bottom of the barrel.

Shred the cabbage into the bottom of the barrel to a depth of about six inches, and over this sprinkle a heaped tablespoon of sugar and salt. Then pound the cabbage well, shred in some more, sprinkle on more salt and sugar, and pound again. This process is continued until the barrel is full, and the more the cabbage is pounded the better.

Place a cloth over the top of the cabbage and fit a board cover inside the top of the barrel so that it will settle down under the weight of a rock or something heavy placed thereon. Set this in a warm place to ferment. In about three days the juice will come up and cover the cabbage; fermentation will begin at once and it will be ready to eat in about four weeks.

Copenhagen Market

Our European grower has given great praise to this variety. It is earlier, larger and better than the Winnigstadt for the local market. It is grown more extensively for the markets of Northern Europe than any other variety. It excels because of its extreme tenderness and delicious flavor, which is compared with cauliflower. We give it urgent recommendation to growers for the home market and for home gardens. (Pkt. 10c) (oz. 65c) (¼ lb. \$2.20) (½ lb. \$3.50) (lb. \$6.50) postpaid.



Copenhagen Market

American Drumhead Savoy The best of all Savoy. Short stump, large size, solid head. (Pkt. 7½c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid.

Improved Red Heads of deep color and remarkably solid. Excellent for slaw. (Pkt. 7½c) (oz. \$1.50) (¼ lb. \$5.00) (lb. \$15.00) postpaid.

Autumn King For four years this Giant Cabbage has astonished all who have seen it at the market. Heads weighing from forty to fifty pounds are not uncommon. It is tender and of excellent mild flavor, ideal for Liberty Cabbage, and it will yield more tons of good cabbage per acre than any other variety. (Pkt. 7½c) (oz. \$1.10) (¼ lb. \$3.35) (½ lb. \$5.50) (lb. \$10.00) postpaid.

PLANT A HOME GARDEN NOW

Vegetables from the home garden are always the best. No market vegetables ever have the sweetness or flavor of those just gathered from your own back yard garden. You don't need to plant lots of seed; from a few feet of ground a supply of vegetables for a family can be grown. A back yard containing a small, well-cultivated vegetable garden is an ornament to a neighborhood. Be sure to plant a vegetable garden this spring.

Be sure to buy A. & M. packet seeds.

A & M Packet Seeds

READ

Look for this case. If your dealer does not carry Aggeler & Musser Seed Co.'s packet seeds, request him to get them, because we do not put our seeds out on commission. Commission seeds are put up and placed on sale throughout the country in August, long before new crop seeds are harvested. Therefore the seeds are at least one year old before they are put into packets. Our packets are never put up until the new crop seed has been delivered. You are sure to get fresh seeds when you buy from the AGGELER & MUSSER SEED CO.'s CASE.

For Cleaning Seeds

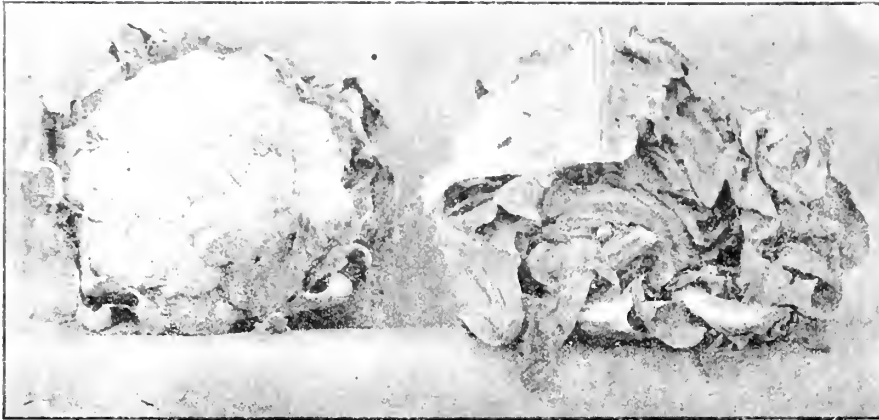
We have the most complete and best equipment in the city for cleaning and re-cleaning seeds of all kinds and of every description. At an expense of several thousand dollars we have installed three Clipper fanning mills, one suction cleaner, and the lately invented Myers Gravity Separator, which is the last word in seed cleaning machinery. It readily separates the good seed from the bad by process of gravity. Every employee connected with the house has instructions to see to it that no unclean seed is allowed to pass. Therefore we request you to report to us any violation of these instructions.



For Testing Seeds

We have with us a graduate from the agricultural college at Davis, whose duty it is to test all seeds when they come to us and again in six months a general test is made. You can write us at any time for a germination test on any seed you contemplate buying.

A & M Cauliflower



Trimmed for Market at New York

Trimmed for Shipment at Los Angeles

California Pearl Cauliflower This variety is a favorite from California to New York, because of its excellent shipping qualities. It originated here and has made Southern California famous for her excellent cauliflower. The California Pearl is thoroughly adapted to a semi-tropical climate and is particularly suited for shipping because of the flower being completely enveloped within spiral curled leaves, which protect the flower from injurious exposure to rain, sunshine or frost, but particularly from injury in packing and in transit. It retains its fresh appearance longer than any other variety. It is decidedly the shipper's favorite. It is the gardener's, the dealer's and the consumer's favorite. To be packed for shipping it is only necessary to cut the stem at the base of the head, and the leaves about four inches above the head. This leaves foliage enough to cover the crown without wrapping in paper. These heads are packed two layers in a crate (16 inches deep), with the base at the top and bottom, the crowns facing in the center, usually 24 heads per crate.

The small grower may plant at any time from May until February, but for profit the shipper should carefully pursue instructions given with each variety.

When you consider that the amount of cauliflower shipped from California each year runs into thousands of carloads, valued at nearly \$1,000,000, and practically all of it is the California Pearl, the value of this type is of so great importance that we are proud to have been the introducers of it. At the time of the introduction, about the year 1900, we had only the late variety that required seven months from the time of planting seed. By selection we developed one to mature in five months. Do not be impatient for the heads to appear. They will grow to mature size in two weeks from time of starting to head.

Early California Pearl Attains a height of two feet. Plant seed from June 1st until November. In six to eight weeks transplant twenty inches apart in rows two and one-half feet apart. (Pkt. 15c) (¼ oz. 80c) (oz. \$2.40) (¼ lb. \$8.00) (lb. \$24.00) postpaid.

Late California Pearl Attains a height of three to four feet. Plant seed July 1st to March 1st. In six to eight weeks transplant two feet apart in rows three feet apart. (Pkt. 10c) (¼ oz. 65c) (oz. \$2.00) (¼ lb. \$6.65) (lb. \$20.00) postpaid.

Extra Early Snowball Has proven perfectly satisfactory for the past twelve years. Planted in June it can be marketed in November. It is the best early cauliflower yet offered by any seed house. We have one customer who has bought ten pounds of this seed for twelve consecutive years. He grows it in peat lands and always plans to market his crop from November 20th to January 1st. (Pkt. 25c) (¼ oz. \$2.00) (oz. \$6.00) (¼ lb. \$18.00) (½ lb. \$36.00) (lb. \$55.00) postpaid.

California Mammoth Medium early. Is the largest variety grown anywhere in the world. It is not uncommon to attain 16 inches in diameter, while 10 and 11 inches is the average. It is of California origin. (Pkt. 25c) (oz. \$2.00) (¼ lb. \$6.00) (lb. \$20.00) postpaid.

Autumn Giant Heads large, firm and compact, thoroughly protected by foliage. (Pkt. 25c) (oz. \$2.00) (¼ lb. \$6.00) (½ lb. \$11.00) (lb. \$20.00).

Danish Giant or Dry Weather Dry Weather Cauliflower merits the confidence of all growers as an all year round variety. It has proven conclusively to be the best for early planting. We give it special recommendation for the first early and late planting. It requires rich soil and good cultivation, but will withstand more drought than any other variety. (Pkt. 25c) (oz. \$5.00) (¼ lb. \$16.50) (½ lb. \$30.00) (lb. \$50.00) postpaid.

Market: The local market consumes and distributes great quantities of early Cauliflower beginning November 1st and throughout the season until July, but it is the shipper who disposes of several thousand carloads, 25c a dozen heads was considered profitable but last season the prevailing price was 75c per dozen.

Culture: Prepare the soil as for cabbage. Seed may be sown from June to the following March. Transplant when the plants are six to seven weeks old. When the stems have become hardened in the bed they will be likely to head prematurely. Set out the plants 18 inches apart, in rows three feet apart. Cauliflower should be kept growing constantly, as it may be injured by a check in any period of its growth, and go to seed; hence, irrigate freely. One ounce of seed produces 2,000 plants; six ounces to plant one acre.

Last season again demonstrated the necessity of proper judgment as to time of planting, and also the important influence of the elements. Only a few years ago no grower planted cauliflower earlier than August, but year by year growers are crowding toward early planting.

Year after year finds the market flooded with first class cauliflower from November until April. The Snowball variety prevails until January 1st, after which it is all the Early and Late California Pearl.

until now May and June are considered a proper time to plant, with the uncertain result that sometimes they succeed and sometimes they fail to have good results.

A crop failure in August must not be attributed to the seed.

Year after year finds the market flooded with first class cauliflower from November until April. The Snowball variety prevails until January 1st, after which it is all the Early and Late California Pearl.

Early Cauliflower

Scarcely a year goes by that does not bring out some complaint from someone that the Snowball variety heads out too quickly. It is the grower's impulse to blame the seed. It is sometimes almost impossible to account for it in each individual instance, but when we sell many pounds of seed to many customers, many having good crops and a few failures, it is unreasonable to attribute the cause to the seed.

We have always advised against too early planting, because of the danger of having excessive heat. Another cause of early heading is the flooding and baking of the seed bed, or after transplanting, irrigating and allowing the soil to bake. The cause in each case is excessive heat.

Therefore seed of the Early variety planted in May, June, or July, or improperly irrigated and cultivated, is subject to the danger of too early heading. Aggeler & Musser Seed Co. will not assume any responsibility for such failures, because the seed is not at fault.

A. C. SIMPSON, San Jose, Calif.

You sent me a sample of your Pearl Cauliflower Seed to try out here. I made a sowing of it January 18, were planted in field March 15. Plants grew to good size but owing to most unfavorable weather did not get one head. Made the second sowing June 16, planted in field July 31 on same ground that the first plants had grown on. Set plants in rows 3 feet apart and 20 inches apart in the row. Have 60 dozen plants one-half of which will make good heads. Had I set them in rows four feet apart and three feet apart in rows I would have harvested a perfect crop. The larger ones stand four feet and will cover a space of ground if unconfined from four to six feet in diameter. The leaves of the larger plants are from 10 to 12 inches broad. They have roots like a year old fruit tree. I have had a great many people look at them, some of them Italian gardeners, all say they never saw anything like them before, and for the table there is nothing to equal them is the verdict of all that have tasted them. Do they always grow to such a size? The plants were crowded so that the stronger prevented the weaker from making the growth they naturally would have done. Was unable to get through the rows with a horse for the last two months.

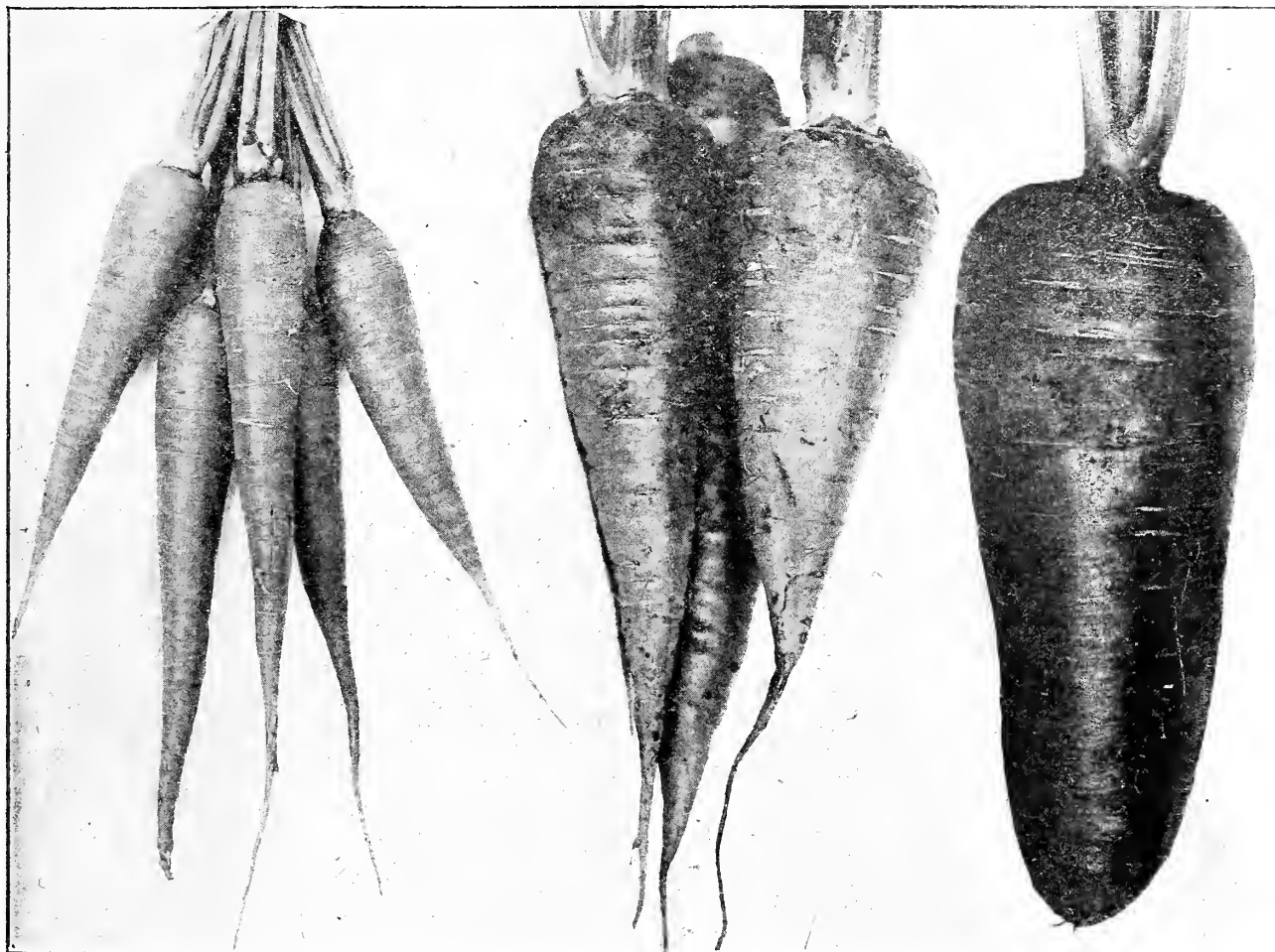
READ PAGES 1 TO 6. Get acquainted with us. Read what part we have acted to bring about the present prosperity of the gardeners of the Southwest. Nearly all of the **BIG THINGS** in vegetables that are being shipped to the far East are varieties we have introduced.

We have received so many letters of appreciation of our last catalog that we are encouraged to continue the features which have been of greatest benefit to our patrons.

The hundreds of letters which come to our information department indicate the wide and intelligent interest in agriculture which is now as never before being shown in the city, as well as by the rural population.

A & M Table Carrots

Gardening Made Easy. See page 5.



Long Orange

Chanteney

Danver Half Long

Sow one ounce of seed to 100 feet of row, four pounds per acre.

Carrots are very profitable because of the large quantity that a small patch can produce, and there is no waste, as any surplus may be fed to rabbits, poultry or other animals.

Carrots may be planted all the year round. Sow the seed from one-half to one inch deep in rich, moist, loamy soil, well prepared. Sow in rows eight inches apart, and as thin as the drill can be set to sow, or, if sown by hand, aim to have two seed to the inch, or sow on ridges same as lettuce. Plant the Oxheart variety. It is the best for the table, and the most attractive for the market. The carrot has no insect enemies. It is a profitable crop to grow. Irrigate same

as for beets. Carrots are ready for use in eight weeks and remain palatable for six months longer.

Market:—The local demand for Carrots is all the year 'round, but the chief demand is from the shipper who wants them from December 1st until May. For this trade the seed should be planted in August and September. The shipper wants the Chanteney, Oxhart and Danver Half Long.

The canning of carrots is now a large factor, and favorable contracts may be secured.

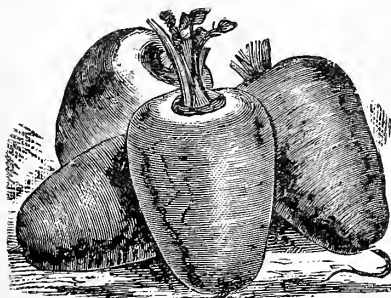
There are many rabbit hutches within the city where carrots are used throughout the year. If you live a convenient distance from one of these places you may be able to secure a contract from the owner to furnish carrots.

Early French Forcing

A small sort, but desirable on account of its extra early habit. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Danvers Half Long

The roots are smooth and of a rich, dark orange color. One of the best sorts for a main crop, because it remains edible in the field longer than other varieties. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) pre-paid.



Early French Forcing

A & M Early Gem Somewhat resembles the Guerande or Oxheart, but is more uniform in shape, of finer texture and almost entirely free from the core usually found in other varieties. Flesh deep red, very tender and delicious in flavor. The roots generally attain from four to five inches in length and about three inches in diameter, although they have been grown to nearly double these dimensions. For bunching, the handsome appearance is a marked advantage over all other varieties. It is a favorite with many market gardeners. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

Guerande or Oxheart Beautiful shape and color. The roots generally attain four or five inches in length and about three inches in diameter. Quality first rate, very tender, like the Early Gem, is the market gardener's favorite. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

Improved Long Orange A deep orange colored variety adapted for farm or garden culture. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

Chanteney Flesh is a deep golden orange color, always smooth and fine in texture, very tender. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

A & M Stock Carrots

Carrots are healthy food for stock of all kinds, and should be more generally grown.

Culture—Drill in rows 12 inches apart, and thin to three inches apart in the row. It requires five pounds of seed to plant an acre. See page 5.

Half Long White Belgian Is raised exclusively for stock. Grows to a very large size; is easily gathered. Makes splendid food for cattle, horses and hogs; known to yield forty tons per acre. Will keep four or five months after pulling. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

A & M Celery

Culture—Sow one-half ounce of seed to 100 feet of drill; ¼ lb. per acre. Sow the seed from Jan. 1st to May 1st, in drills six inches apart, not too thick in the row to secure stalky plants. In June when the plants are strong, transplant to furrows three feet apart and six inches deep. Set the plants six inches apart in the furrows; as the plant grows fill the earth toward the plant to secure proper bleaching. Never allow dirt to rest on the heart of the plant. Never work in celery when it is wet with rain or dew. Spray frequently with Bordeaux.

IMPORTANT:

Celery Rot—Do not allow water to stand during the heat of the day after irrigating. It will cause Celery Rot in the early crop.

Seed Stem—Cultivate as soon as possible after irrigation; also when transplanting hot house plants, see that they are thoroughly hardened to the weather before transplanting. We are indebted to Rice Brothers for this information, and they demonstrated conclusively that this is correct. Failure to adhere to this rule will account for much of the celery going to seed.



Actual Photograph of Golden Self-Blanching Celery, from California-grown Seed Grown by Capt. Nelson

Golden Self Blanching (California grown seed.) Another year has demonstrated that our strain of California grown seed is equal to the imported in producing good celery.

Every grower in Florida that tried our California grown seed in 1917 ordered again in larger quantities for 1918. The seed we offer was grown by an expert whose seed is now accepted by all who have used it as fully up to the imported. We offer it to you with our full recommendation. (Pkt. 7½c) (oz. 60c) (¼ lb. \$2.00) (lb. \$6.00) postpaid.

California Grown Golden Self-Blanching Celery Seed is now the accepted standard throughout the United States, and is giving such complete satisfaction that American growers are accepting it with absolute confidence, asking only to know the reliability of the seed. That ours is reliable is proven by a three-year record of satisfied growers.

Large Yellow Belgian Is similar to the above, but said to be richer, but does not keep so well. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Half Long Giant White The largest of all stock carrots, and desirable because it does not grow to a great depth, and although six inches in diameter, there is no hard core. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Mastedon (Cow Horn) Desirable because it stands well above ground, thus being easily harvested. Although six inches in diameter, there is no hard core. We give the Mastedon special recommendation to dairymen. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Hollow Stem—When the growth is rank and the stalks so close that free ventilation of air is retarded, the stems become soft and hollow; therefore, we recommend single-row planting.

Market—The local consumption and outlying distribution disposes of a very large acreage, but owing to its erratic nature it requires peculiar soil and professional culture. Therefore, there are few localities where it can be forced to earliness. May, June and July celery brings a high price to the grower. Then there comes an oversupply until the shipper disposes of it. When a surplus exists cold storage is resorted to, with doubtful profit, on account of the perishable nature, the shrinkage and the expense.

Giant Pascal

It is a green top, much superior to the California green top. It is a great favorite in the eastern gardens. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00) postpaid.

Calif. Giant White Plume

Best for home garden. We have now the grandest strain of White Plume Celery ever offered to the market gardener. One stalk frequently weighs above five pounds. It is solid, and crisp, with a decidedly salty flavor derived from the alkaline soil in which it was grown. On the best lands it attains its highest perfection. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.25) (lb. \$3.50) postpaid.



Celery Seed for Flavoring Per lb. 50c postpaid.

Easy Blanching Celery An early green top variety that has become very popular in eastern celery growing sections because it requires only a few days to produce a marketable blanched celery. The advantage of this is apparent to the professional celery grower because it obviates that large percentage of loss always incurred during the process of blanching. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00).



Smooth Prague, Celeriac A large celery flavored root used extensively for flavoring soups, pickles, etc.; also relished sliced as a salad with pepper and vinegar. It is also used to flavor salad. (Pkt. 7½c) (oz. 30c) (¼ lb. \$1.00) (lb. \$3.00) postpaid. A letter from Mr. Harry Bailey, who makes a specialty of growing Celeriac, says: "Save me ½ lb. of your Celeriac if it is the same I got last fall. It is the best I ever had."

A & M Sweet Corn

HINTS TO MARKET GARDENERS

Write College of Agriculture, Berkeley, Cal., for Bulletin No. 208, entitled "The Late Blight of Celery."
See list of agricultural books, page 8.

Market:—There is a uniform local demand for sweet corn throughout the season, from the earliest day it is offered until the last field is harvested. Therefore, prepare to have some coming all through the season. Oregon Evergreen has not been surpassed since we introduced it twelve years ago; it is yet the best.

Note—Prices on half pound and pound quantities include postage or expressage prepaid. When sent otherwise, deduct 10 cents per lb. If desired sent by Parcel Post, necessary postage should be added. See our Parcel Post schedule on cover page. If large quantities are desired, do not fail to write for special prices.

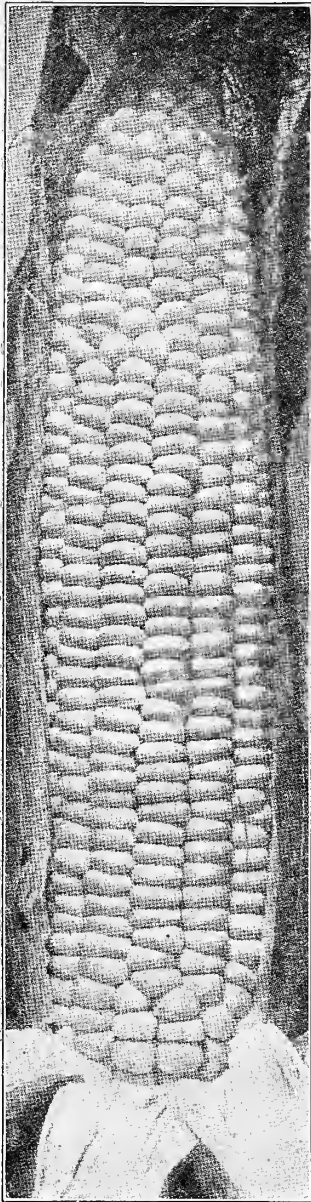
Culture—Plant from February 15th the September 1st in hills 18 inches apart, in rows three feet apart. Allow two stalks to the hill, break off all side shoots; cultivate after each irrigation until the corn shades the ground; irrigate every two weeks until in the milk, then once or twice a week, and this will produce a solid tight husk, which will prevent the worms from doing much damage.

We are ever on the lookout for something better than that which we have. We are constantly trying out new varieties that show merit, but we studiously refrain from offering to our customers anything new unless it is better than that which we have. It is this policy that has kept the Oregon Evergreen so prominently before you for twelve years as the money-maker for the market gardener. Read what follows.

A & M Oregon Evergreen

Oregon Evergreen Corn now has the endorsement of every gardener that grows for the Los Angeles market. We are safe to say that any gardener growing this will show to his customers its superiority over all other sweet corn. It is many years since we first offered this new and distinct variety. The demand has grown each year until it is now practically the only variety offered on the Los Angeles market. This excellent sweet corn has made wide progress in popularity during the

season just past. It leads all other varieties at Portland, Oregon. The peddlers will have no other and one no longer hears the consumer complain about the poor quality of the California sweet corn. The advantages of this corn over all others are its earliness, its large size, rarely less than eight inches long, clear of husk. The grains are full to the tip. The husk is very thick and folds so tightly over the grains that the worm does very little damage, compared with other varieties. It is desired by the peddler and groceryman because of its thick husk, and it can be held over two days before it appears old or wilted. It is very productive, averaging three good ears to every stalk, often bearing five marketable ears. (Pkt. 7½c) (½ lb. 25c) (1 lb. 40c) postpaid; (10 lbs. \$3.00) f. o. b. here.



Oregon Evergreen

A & M Early Adams

This is a blend between the Oregon Evergreen and the Eastern Extra Early Adams. The superiority of this strain over the former eastern-grown Adams is shown in its earliness, large size and sweetness. It is nearly as good as the Oregon Evergreen, and is earlier and harder. It is one of the many good things that originated here. Years ago when frost destroyed about all early vegetables, many gardeners plowed under their Early Adams, thinking it, too, was destroyed, but one large grower near Los Angeles for some reason did not disturb his field, and was surprised to see it revive and produce a good crop, as though undisturbed by frost. This grower was selling corn three weeks earlier than others, and demonstrated that frost will not destroy this variety when quite young. (Pkt. 7½c) (lb. 30c) (postpaid; (10 lbs. \$1.50) f. o. b. here.

Mr. H. D. Grundt of Wasco, Cal., writes: Your A. & M. Early Adams planted at the same time with large white corn was cut four weeks earlier and produced as much corn per acre. I prefer it for field corn because it gave me the use of my ground a month earlier for fall planting.

A & M Large Adams

This is the best market variety to plant in August and September for late crop. It will mature in 56 days. (Pkt. 7½c) (lb. 30c) prepaid; (10 lbs. \$1.50) f. o. b. here.

"I am shipping by express one dozen of Adams Late corn to show how it did in the hottest season we have here. Would have done better but we were short on water. I think it will do fine here planted early or late, about the middle of August. It sells better here than the Mexican or Squaw Corn."—W. E. Hixson.

Golden Bantam

Probably the very earliest variety grown. Very sweet, none better for the home garden for first early. (Pkt. 7½c) (½ lb. 30c) (lb. 55c) prepaid; (10 lbs. \$4.25) f. o. b. here.

Country Gentleman

Country Gentlemen

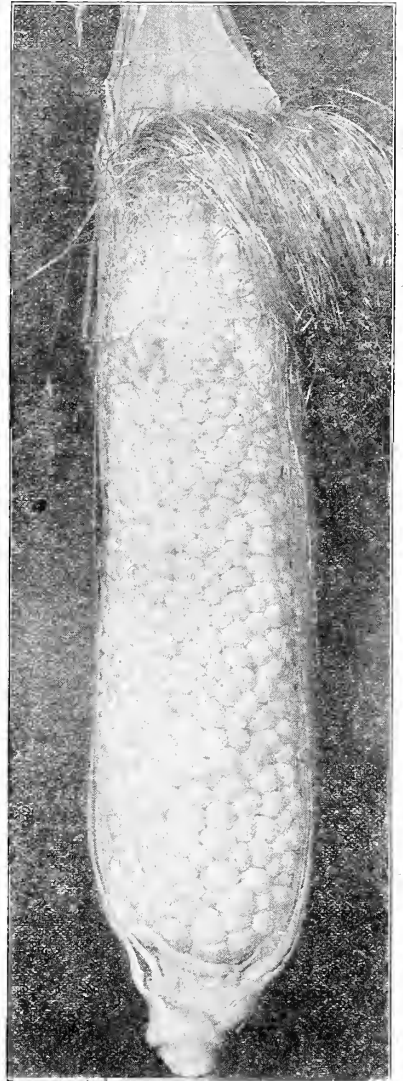
A delicious sweet corn. The ears are somewhat smaller and less showy than the coarser varieties, but for private family use, where quality is preferred to size, it is excelled only by the Golden Bantam. The cob is very small, giving great depth to the kernels. The great merit of "Country Gentleman" is its fine quality. It matures in ten weeks. (Pkt. 7½c) (lb. 40c) prepaid; (10 lbs. \$2.50) f. o. b. here.

Stowell's Evergreen

If planted at the same time with earlier varieties and at intervals of two weeks until July 1st, it will keep the table supplied until November. It is hardy and productive, very tender and sugary, remaining a long time in a fresh condition suitable for cooking. (Pkt. 7½c) (½ lb. 30c) (lb. 55c) prepaid; (10 lbs. \$4.25) f. o. b. here.

Black Mexican

One of the best sweet corns for this section. Deliciously sweet and tender and very productive. (Pkt. 7½c) (lb. 40c) prepaid; (10 lbs. \$2.50) f. o. b. here.



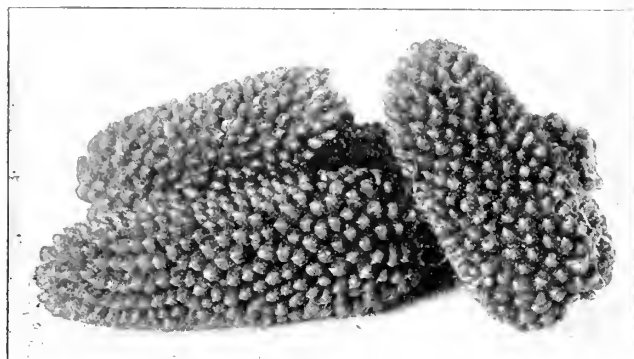
Country Gentleman

Pop Corn

Rice Sharp pointed grain is preferred by vendors, but it not profitable to grow here at usual prices because of the devastations of the worm. Per (Pkt. 7½c) (¼ lb. 15c) lb. 40c) postpaid; (10 lbs. \$2.00) f. o. b. here.

Pearl This is the variety so extensively and profitably grown locally. It yields enormously and at three cents per pound is very profitable, but for several years the grower has received four cents per pound for the entire crop. (Pkt. 7½c) (¼ lb. 15c) (lb. 40c) postpaid; (10 lbs. \$2.00) f. o. b. here.

Yellow Large smooth grains of Golden Yellow color. It pops large, has excellent flavor and is the most profitable to grow, but does not sell as readily as the Pearl. (Pkt. 7½c) (¼ lb. 15c) (lb. 40c) postpaid; (10 lbs. \$2.00) f. o. b. here.

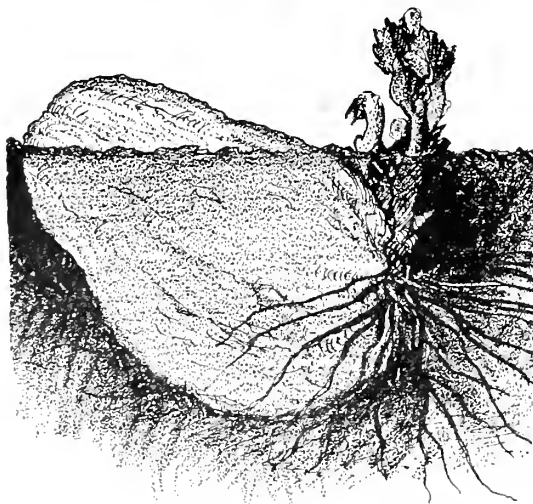


Doll Pop Corn

Doll Pop Corn The best of all for the home garden. The commercial pop corn roaster prefers it, saying it is the best of all, but he cannot get enough of it because the comparative yield is small, therefore, not profitable to grow in large acreage. But for the home it very much excels other varieties. (Pkt. 7½c) (¼ lb. 20c) (lb. 50c).

The Corn Ear Worm—Write University of Arizona, Agricultural Station, ask for, "Timely Hints for Farmers," Bulletin No. 120, also circular No. 117, entitled "The Corn Ear Worm."

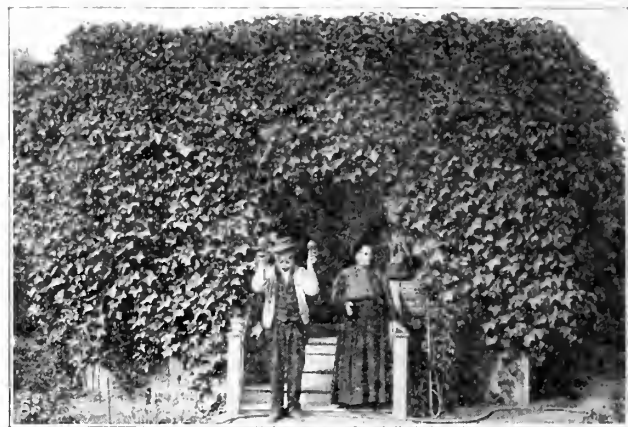
A & M Chayote



Chayote as It Should Be Planted

The Chayote is no longer an experiment. It has now become an article of commerce. It may be found on sale at every grocery store throughout the season, which lasts from October until March.

The vine is a rampant grower. The first year from seed it will grow twenty to thirty feet. Destroyed to the ground by frost, it soon sends out new growth, and during the second season will extend vines forty or fifty feet in every direction. During September it starts blooming, having a small white insignificant flower. Within four weeks the fruit is large enough for the table. One vine in two years is properly trellised will produce more than one thousand fruit.



The Vine-covered Cottage that Yielded \$30.00 Worth of Chayotes

Cultural Directions One fruit envelopes one seed, which sprouts from the large end. Plant where you intend it shall grow. Cover only the large end, leaving the small end exposed. (See picture.) Or let the fruit lie around until it has well sprouted, and then plant the seed, leaving the sprout well above ground. Water freely and do not be alarmed if frost should destroy it. A new shoot will soon appear. Give it abundance of water throughout the hot summer season.

Because of many complaints of failure to get them started we offer them already rooted. Rooted vines 30c each or 2 for 50c postpaid. One Chayote not rooted, 20c, or 2 for 35c postpaid. At the counter, rooted, 15c; not rooted, 10c.

RECEIPTS

Parboil, chop and casserole with tomato, onion and green peppers.

Fry as egg plant. Prepare as summer squash.

Use small ones, without peeling, boil until tender, cut in half, put a small lump of butter, a little sugar, salt and pepper on each one. Put in oven a few minutes.

For larger ones. Peel and cut into cubes and boil; when done, drain, add butter and seasoning and fry in pan. Let simmer until butter burns. Just before serving put tablespoonful of vinegar on them.

Parboil young ones and serve as salad with mayonnaise dressing or with boiled dinner as turnips.

Spanish Style: Can be cooked Spanish with tomatoes and chili or bake in roasting pan with meat.

Breaded: Also to boil until tender, slice, dip in egg and cracker crumbs and fry it.

Chayote Pudding—Boil the Chayote, mash, and rub through a sieve. To one and one-half cupfuls add one-third cupful sugar, one well beaten egg, two powdered soda crackers, one teaspoonful ground ginger, one teaspoonful of lemon extract, and one tablespoonful of butter. Mix well, turn into a greased pan and bake. This is delicious, try it.

Chayotes cooked with sliced lemon, and sugar to sweeten well, make a fine "apple" sauce, one can scarcely tell the difference.

Mrs. A. de la Mix, Nalaehu, Kauai, T. H., writes that the Chayote was grown in Portugal from time immemorial and its Portuguese name is Pipinola. She also advises that when peeling, hold the hands under water as the liquid stains and draws the skin, but does no lasting harm.

Three Most Valuable Books for California

By Edward J. Wickson, A. M.

Professor of Horticulture in the University of California; Editor of the Pacific Rural Press; Member of the National Council of Horticulture, etc.

The California Fruits and How to Grow Them
Price \$3.00; postpaid to Pacific Coast, \$3.15

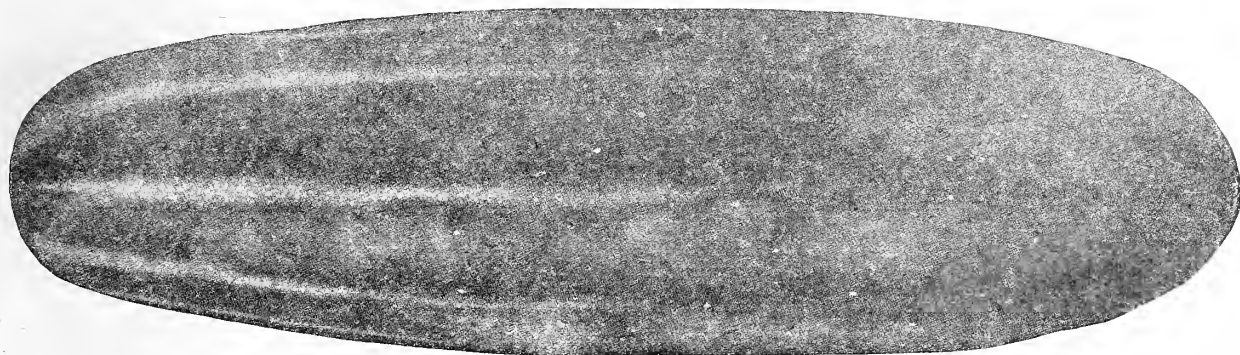
The California Vegetables in Garden and Field
Price \$2.00; postpaid to Pacific Coast, \$2.15

California Garden-Flowers, Shrubs, Trees and Vines
Price \$4.50; postpaid to Pacific Coast, \$4.60

These three books are standard and authentic works on these subjects of fruit growing, vegetable raising, and general flower gardening about the home. Written by one who knows California conditions thoroughly. Other books are listed on page 8.

A & M Cucumbers

Market:—The hot-bed cucumber is here to stay because it is profitable. There is usually an over-production in mid-summer when the price drops to 15c per lug which should never sell for less than 30c to be profitable. Probably more money is realized from Cucumbers planted September 1st than from the main crop planted earlier. Since the shipper has taken hold of the hot-bed cucumber the business has grown enormously.



Klondike Cucumber

Culture for cold frame—Make the frame 8½ feet wide and as long as is desired, using 12 in. boards. Select a place with good loamy soil on a sunny slope. Mix the soil almost half and half with horse manure. About February 1st sow liberally with seed, in hills three feet apart each way. Stretch wire across the frame across and lengthwise. Sew muslin in widths and lengths to cover frame. Arrange to roll the muslin on a stick as a curtain. Cover each evening, and open each day.

Field culture—Plant from March to October in hills 4 to 6 feet each way, 8 to 10 seeds to a hill. Cover an inch deep. When danger of insects is past, thin out the plants, leaving 5 or 6 of the strongest in each hill. It is ready for the table in six weeks from planting seed. One ounce of seed will plant 50 hills; two pounds to the acre.

Klondike This cucumber has steadily grown into favor since we first offered it six years ago. It is the one variety that made carload shipments possible because it is firm, dark green color, and stays green until consumed; turns neither white nor yellow with age, but stays green. It is a desirable size, just 7 to 8 inches long, symmetrical in shape, and especially crisp and palatable. It is an excellent variety for pickling when young, as well as desirable for the market. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) (5 lbs. \$6.00) postpaid.

Davis Perfection This is the ideal cucumber. Long slender, dark green, tender and crisp. It is the best all around cucumber yet offered for the family garden, the market garden and the hot house. Do not hesitate to plant this variety, whether you plant a dozen hills or a larger acreage. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) (5 lbs. \$9.00) postpaid.

Arlington White Spine This has been a favorite for many years; it is one of the best sorts for early out-door forcing, and always a good table variety. It is very prolific, and excellent for pickling when young. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

Improved Long Green Dark green, firm and crisp; ten to twelve inches long, a favorite with home and market gardeners. Hotel trade like a long cucumber for slicing; this is ideal for such purpose. It is very prolific, and none better for pickling. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Japanese Climbing Cucumber This variety should be grown more extensively; it is equal to others in quality and can be grown more economically in a small garden by planting near a fence or trellis of any kind, and climbs by tendrils as a grape vine. Whether space is a factor or not, we recommend it. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (lb. \$2.00) postpaid.

Lemon Cucumber At last after years of advertising and effort to educate the home-gardener to grow the Lemon Cucumber in preference to the common long green type, we can now say that at least half the people are awake to the superiority of this delicious salad, and the other half will soon regret not having tried it earlier. Every one who has tried it is unanimous in its praise and would not think of omitting it from the spring garden. It is the color of a lemon when ready to use, and similar in shape, being less pointed at the ends. Plant four or five hills for a family garden. Cultivate same as other cucumbers, water freely and you will have four times as many cucumbers as any other variety will produce.

There is nothing but praise for the Lemon Cucumber. It may now be found at almost any vegetable stand, and no home gardener should be without it. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.35) (lb. \$2.50) postpaid.

When you have tasted the Lemon Cucumber write us about it that others may know how good it is.

Our Everbearing Cucumber This variety is entirely distinct from all others on account of its close, bushy growth and everbearing character as shown in our illustration. The first cucumbers are ready very early and the vines continue to flower and produce fruit continually until late in the season, whether the ripe cucumbers are picked off or not, differing in this respect from all other varieties of cucumbers in cultivation. A single vine will show at the same time cucumbers in every stage of growth, the smaller ones being perfect in shape, of a fine green color, just the right size for pickling. As they grow larger they are entirely satisfactory as a slicing cucumber.

We recommend this to be planted in home gardens at all times, but especially in September. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50) postpaid.

Chicago Pickling This is the variety that is being shipped out of Orange County to the Los Angeles pickling factories. Thirty-five carloads were shipped in, and possibly as many more came by auto truck. Our seed has given these growers satisfactory results for years.

This variety is chosen because of its delicious quality and its shape, being one inch thick and three inches long when at pickling size. It is enormously prolific, bearing in clusters. We can recommend it for the home garden, but not for the market gardener, because it turns yellow soon after being taken from the vine. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) (5 lbs. \$1.60) postpaid.

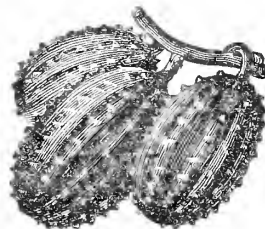
Italian Cucumber Always the prize-winner. Almost every county represented at the Exhibition in San Francisco had one or more jars of this Italian Cucumber. It is excellent for the table when quite young, and under ten inches long. It frequently grows to thirty inches in length. Sold only in packets, 7½c each.

A Word About Cucumbers

Planted from September 1st to 15th, in a sheltered place, will produce delicious cucumbers all through December and late into January. This has been done frequently, but so much depends upon the changeable climatic conditions each season that there is always a risk of failure, but it is worth a trial because the expense is small compared with the profit if you succeed. Six hundred dollars from one acre of cucumbers during the month of December is easily possible.

To prolong the vitality of your vines, pick all of market-size every other day, and do not tread upon the vines when picking. To grow prize cucumbers, mix a handful of fertilizer with the soil about the hill when planting, and more as the vine grows.

Gherkin This cucumber is used only when pickled, but it is the most delicious of all the cucumber family when properly pickled. It should be more extensively grown. Planted where it may climb on a trellis, one vine will cover a section of fence eight feet high and twelve feet wide, producing possibly a thousand or more of the delicious and oddly shaped gherkins. It should be planted to shade a window or back porch. (Pkt. 7½c).

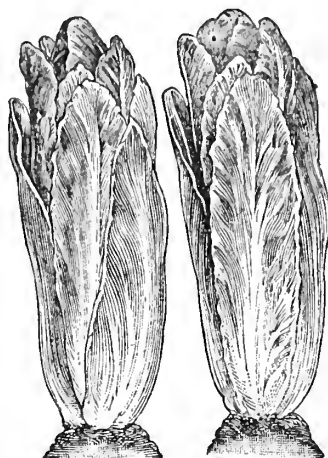


SMALL GHERKIN.

Just think! 1,000,000 yards of muslin means 900,000 square feet of cold frame. All Klondike cucumbers planted within an area of a square mile, 350 carloads, shipped to Eastern markets during the months of April and May.

A & M Chicory

The roots, dug in the fall, dried, cut in thin slices, and ground, are used largely as a substitute for coffee. Seed should be sown quite thinly in shallow drills early in the spring. When well started, thin out to stand two or three inches apart in the row, and give good cultivation all summer. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.



WITLOOF CHICORY.

Witloof Chicory

Sow the seed in deeply prepared ground during June, July and August. Thin out to eight inches apart in rows twelve inches apart. In the fall take up the roots and store them in a manner that will preserve them in good shape for a month or longer. This can be done by burying them in sand. In December make trenches ten inches deep and twelve or fifteen inches wide, and loosen the soil for ten or twelve inches deeper. Set the roots three inches apart in rows six inches apart, within the trench, so the tops of the roots are eight inches below the top of the trench. Then fill with sand, water thoroughly and cover with manure. In two to four weeks tender heads will form and be ready to use as a salad with French dressing.

This is a most delicious salad, and many Eastern growers are making a specialty of it, selling to hotels at fancy prices. We suggest it to our many mushroom growers, believing it will go nicely hand-in-hand with the growing and marketing of mushrooms. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.75) (½ lb. \$2.75) (lb. \$5.00) postpaid.

A & M Collards

The Collard is an old-time favorite, adapted to all parts of the South, and as a producer of "greens" for boiling in winter and spring it has no equal. It will pay you to have a collard patch just to feed the chickens.

Southern Georgia This variety is the old-time favorite. Stands all sorts of adverse conditions without injury. Is very hardy. In many places where the soil is too poor to grow cabbage, the collard grows easily and makes a good substitute for cabbage. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (lb. \$2.00) postpaid.

A & M Cress

Pepper Grass Sow curled or pepper grass thickly, in shallow drills, every two or three weeks. It should be cut often, and will continue to grow. It is used not only for salad, but on the breakfast table and for garnishing. Used with lettuce its pungency adds an agreeable flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) postpaid.

True Water Cress Should be sown in damp soil or if a stream of water can be utilized, it would be much better. It will also thrive well in damp cold frames. Rightly managed, its culture is very profitable. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) postpaid.

A & M Corn Salad

Culture—Sow any time from Oct. 1st until February. Plant and cultivate the same as lettuce. It is hardy in this climate. It is used for garnishing in the same manner as parsley or cress. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

CHERVIL

Pkt. 7½c) (oz. 25c)

A & M Dandelions

Sow early in spring, in very warm, rich soil, in drills eighteen inches apart; thin to five inches apart and cultivate well; they will be fit for cutting the next spring. When grown for the roots, sow in September and cultivate well during the fall and the following summer; the roots will be fit to dig in October.

Improved Thick Leaved Unsurpassed in thickness of leaf and deep green color. It is compact and forms an upright regular tuft at the center. This cabbageing sort is much superior to the common or uncultivated dandelion. Pkt. 7½c.

A & M Egg Plant

Market—The sale of Egg Plant does not compare favorably with other produce, and the consumption is not large. It is owing to the productiveness of the Egg Plant which makes it at all profitable during the season of abundance. A small acreage yields enormously, but it is the very early Egg Plant which makes a profit, such as \$1000.00 per acre May and June are considered early.

Culture—The seed should be sown in a hot-bed during December or January; it is slow to germinate and requires warm and even temperature. The plants should be ready to set out by April 1st, and may be planted as late as August 1st. Plant eighteen inches apart. Keep well watered, and pick closely as soon as large enough. In very warm protected spots they will survive the winter. Even if the foliage is destroyed sprouts may appear the following spring from the stem beneath the soil and mature marketable fruit the following May. Egg Plants require four to six months to mature. One-fourth pound of seed is sufficient to plant an acre.



New York Improved Spineless Egg Plant

New York Improved This variety has superseded all others, both for market and home use. The large size and high quality of its fruit and its extreme productiveness make it the most profitable for the market gardener. It is spineless, which is a great advantage in shipping. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (½ lb. \$4.00) (lb. \$7.50) postpaid.

The Tree Egg Plant

This variety is of medium size and extremely good shape, being particularly adapted to slicing, as there is no waste of material. It resists drought and bad weather to a wonderful degree, partly on account of its strong, upright growth. It bears its fruit sometimes one or two feet above the ground, thus escaping liability to rot. It is very satisfactory for the home garden. (Pkt. 7½c) (oz. 75c) (¼ lb. \$2.50) (½ lb. \$4.00) (lb. \$7.50) postpaid.

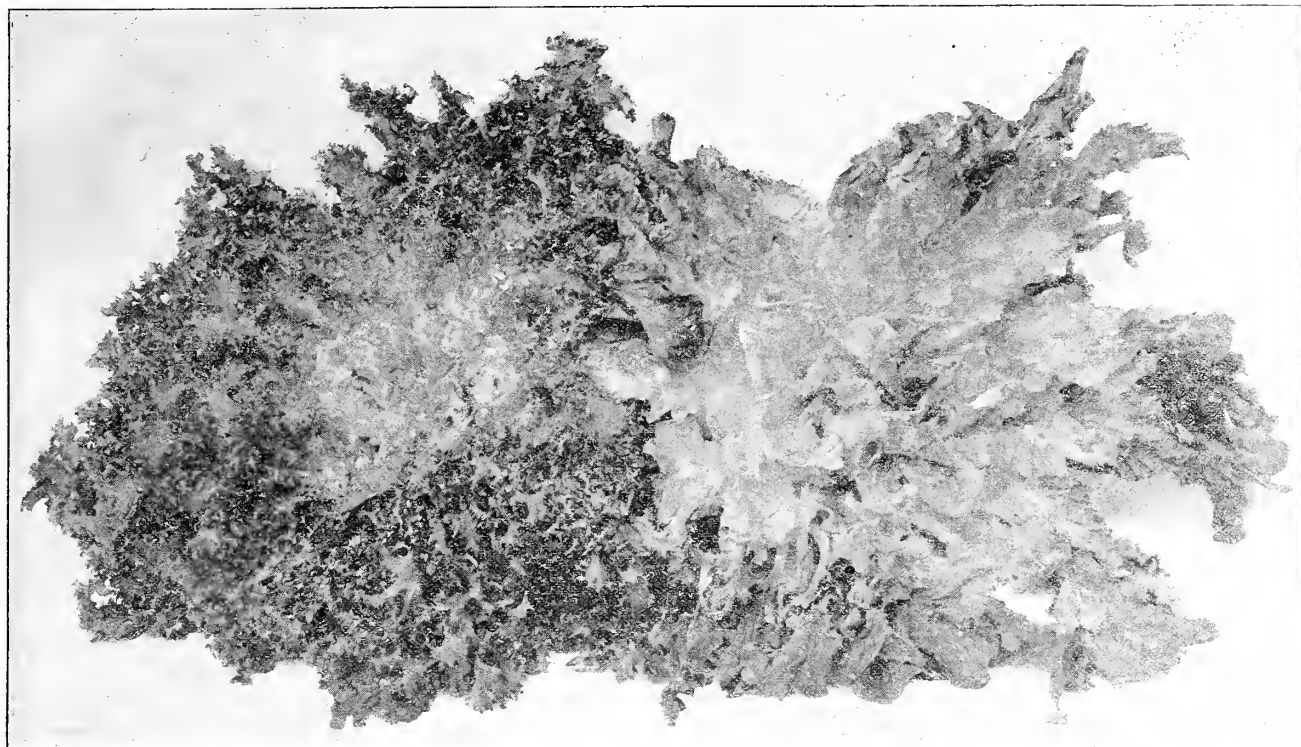
Black Beauty

Is preferred by growers for the early market because it matures marketable sized fruit earlier than any other variety, and because the fruit is dark colored, when quite young and uniformly over the entire surface. It is entirely free from spines. It is popular because it is a money-getter. (Pkt. 10c) (oz. 75c) (¼ lb. \$2.50) (½ lb. \$4.00) (lb. \$7.50) postpaid.



Tree Egg Plant

A & M Endive



Green Curled Endive

Culture—Same as for lettuce. Seed may be sown any time during the year. When plants are well started, thin out to ten inches apart, or they may be transplanted. When plants have reached a good size, gather the leaves closely together and tie loosely in an upright bunch. This blanches the inner leaves in about ten days and adds to the crispness as a salad, as it renders the flavor mild and delicate. One ounce will sow 400 feet of row.

This plant furnishes an attractive and appetizing salad for the fall and winter months, or by repeated sowings a supply may be had nearly all the year round.

Green Curled Golden Heart Leaves are finely cut or lacinated, giving the plants a rich, mossy appearance, which is greatly enhanced when the centers are nicely blanched.

This is the variety generally preferred because it blanches to a beautiful golden yellow. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

White Curled This beautiful variety does not need blanching to prepare it for use, the midribs being naturally of a pale golden yellow, the finely cut and curled leaves are almost white. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Batavian or Escarol Forms large heads of broad, thick leaves, which can be blanched for a salad or it will make excellent cooked greens, as well as being useful to flavor soups, stews, etc. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

A & M Herbs

Plant Dill Last year there was such a demand for green dill that the supply was much short of the demand.

Plant in any quantity, from ten feet square to one acre, but not more. Make several plantings to have it drag along, and sell what you can of the green dill and let the balance mature for seed. There is a good demand for the seed at about 20c per lb.

Herbs in general, delight in a rich, mellow soil. Sow the seed any time throughout the year, in shallow drills one foot apart; cover lightly with fine soil, and when up a few inches, thin out to proper distances apart, or transplant into prepared beds. Care should be taken to harvest properly; do this on a dry day, just before they come into full blossom. Dry quickly in the shade, pack closely in bottles or dry boxes to exclude the air; this will insure their being preserved in good condition for future use. Varieties in the list marked * are perennials.

Leading Varieties

Pkt.	Pkt.
Anise 7½c	*Lavender, Sweet 7½c
Balm 7½c	*Peppermint 7½c
Borage 7½c	*Rosemary 7½c
Burnet 7½c	*Sage 7½c
*Caraway, lb. 50c. 7½c	Saffron 7½c
*Catnip or Catmint 7½c	Summer Savory 7½c
Chervil 7½c	Sweet Marjoram 7½c
Coriander, lb. 50c. 7½c	Sweet Basil 7½c
Dandelion 7½c	*Thyme 7½c
Dill 7½c	*Winter Savory 7½c
*Fennel, Sweet 7½c	*Wormwood 7½c

If interested write: University of California, College of Agriculture, Berkeley, California, ask for Bulletin No. 275, entitled, "The Cultivation of Belladonna in California."

Devote a small plot in your garden to the growing of herbs. They add to the taste of things what daintiness adds to the looks of things, and many of them may be enjoyed all the year round.

There is an increasing demand for Basil, Dill and Thyme for use in canning and pickling. It may prove profitable to contract to grow these herbs for that purpose.

Belladonna We have the seed for sale fresh from the grower. (Pkt. 10c) (oz. 50c) (¼ lb. \$1.50).

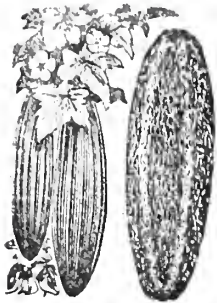
The growing of Herbs promises a profit to the grower who will go about it intelligently. We would suggest that you write United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., and ask for Bulletin No. 372, entitled, "Commercial Production of Thymol from Horsemint," by S. C. Hood. Also, same address, ask for Bulletin No. 734, entitled, "Production of Drug-Plant Crops in the United States," by W. W. Stockberger.

DRYING VEGETABLES AND HERBS

Because of the great necessity for the conservation of food, the Department of Agriculture published a Bulletin (No. 841) on the subject of drying fruits and vegetables with the proper recipes for cooking them. As a result of this Bulletin there is some consideration given to the idea of forming companies to go into the drying of vegetables just as is now being done with fruit, and it is much cheaper than canning and will accomplish much toward lowering the high cost of living, and toward feeding the starving millions in Europe.

Write at once to the Department of Agriculture and ask for Bulletin No. 841.

A & M Gourds



Dish Rag Gourd

Culture—Gourds are tender annuals, of trailing or climbing habit. The seed should not be planted until the ground is warm. Plant in hills and cultivate as cucumbers. Leave only three or four plants in a hill, and allow the vines to ramble or train over a trellis and for shading windows.

Dish Rag Gourd The peculiar lining of this valuable gourd gives it its name. The fruit grows about two feet long. The interior fibre is serviceable for a variety of household purposes, being used as a dish cloth, or sponge. The fibre is tough, elastic and durable. (Pkt. 7½c).

Orange or Mock Orange A good old sort, the fruit often finding its way into the family sewing basket. A beautiful and rapid climber, quickly covering trellises. (Pkt. 7½c).

Dipper Bowl with long handle. (Pkt. 7½c).

Bottle Bowl with short handle. (Pkt. 7½c).

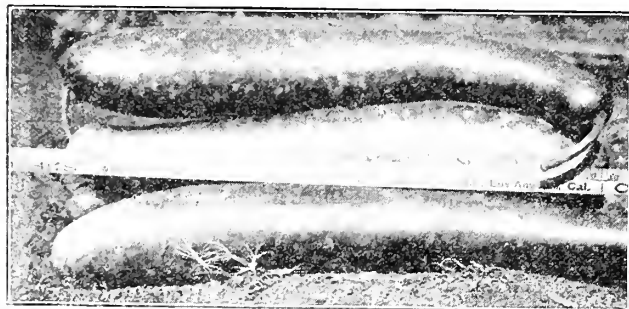
Pipe Often made into pipe for smoking tobacco. (Pkt. 7½c).

Nest Egg (Pkt. 7½c).

Ornamental Small, odd shapes and colors. (Pkt. 10c).

Mixed Gourds (Pkt. 7½c).

Something New Yet Ages Old



AN EDIBLE GOURD

Lately advertised as New Guinea Bean. Has been a common table vegetable in China from time immemorial.

It remained for some cheerful idiot to advertise "A Gigantic New Guinea Butter Bean." "One bean suffices for several meals." "Sliced like bread, one piece is a portion for each member of the family," and such talk.

The department advertised it, "Beware of the fraud, it is but a gourd."

All of us have curiosities and many persons have reported to us how "Good is this New Guinea Bean." We tried it and sure enough we found it even better than the most delicious marrow.

Recipe: Take fresh from the vine a young gourd about sixteen inches long and three inches in diameter or smaller, while the fuzzy growth is yet on. Cut into cubes about ¾ inch, bring to a boil, pour off the water once or twice. Season well with pepper and salt, add butter. You will be surprised how good it is.

Our price is not 50c for 6 seeds as advertised, but 15c per pkt.



Kohl Rabi

A & M Kohl Rabi

Culture—Seed may be sown every month in the year. Drill on ridges same as beets. (See page 5.) Thin to three inches apart. An ounce of seed will produce 2,000 plants.

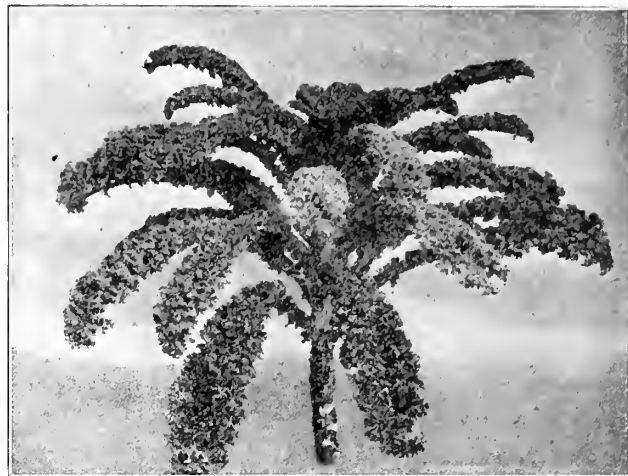
Early White Vienna

The earliest sort, very tender, excellent for table use. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$2.00) (lb. \$3.00) postpaid.

Early Purple Vienna

Similar to above, but has flesh of purple color. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$2.00) (lb. \$3.00) postpaid.

A & M Kale



Tall Scotch Kale

Culture—Seed should be sown thinly, in drills, about the middle of June for the tall sorts; transplant the young plants twelve inches apart in rows three feet apart. Later in the season the dwarf sorts may be sown rather thickly in drills to furnish small heads to be cooked like spinach. One ounce to 100 feet of drill.

Tall Scotch This makes a beautiful plant, about two-and-a-half feet tall. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.15) (½ lb. \$2.00) (lb. \$3.50) postpaid.

Jersey Kale A tall variety with smooth leaves. Especially used for poultry greens. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.15) (½ lb. \$2.00) (lb. \$3.50) postpaid.



Siberian Kale

Siberian Kale Two years ago we received a complaint from a grower who had ordered Tall Jersey Kale. Investigation revealed the fact that he received the Siberian Kale. This proved to be so vastly superior to other varieties that poultry-men prefer it. It is not only a more rampant grower but more tender and succulent. Indeed it surpasses all other varieties. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.15) (½ lb. \$2.00) (lb. \$3.50).

A & M Lettuce

How to Raise Lettuce

(SEE PAGE 7)

In the bulletin, No. 160, "Lettuce Growing in California," by Stanley S. Rogers, published by the University of California, we note that Prof. Rogers predicts great development of the lettuce industry, since so heavy a demand for California-grown lettuce is growing up that it is often difficult to supply the Eastern demand. Last year more than 2000 acres were planted to lettuce in California.

Experienced growers under favorable conditions can produce 2000 dozen heads per acre, and at an average price of 12½ cents per dozen, this means, for skillful farmers on good land, a gross income of \$250 an acre and a net income of \$176.80, with the land in use for lettuce only three or four months.

Lettuce is very exacting as to soil requirements. It is best suited to a rich, light loam, and should never be planted on soils of poor quality. Irrigation is necessary throughout the entire growing period, except during the rainy season, but the crop is easily ruined by an excess of water. The crop stands cold better than heat, and in many of the interior valleys of the state it is impossible to raise lettuce of good quality during the summer.

At the time of planting, the soil should be in the finest possible condition. Many growers apply from 15 to 25 tons of manure per acre. The plants should be grown on ridges, 12 to 18 inches wide, four to six inches high, and ten to 15 inches apart. The water should be run between the ridges and not flow over the tops, and should never be allowed to cover the plants. There should always be an adequate amount of moisture in the soil from the time the plants have commenced to head until they have matured. The hoeings necessary on raised beds will vary from one to five. The earth around the plants should not be allowed to harden.

In the interior valleys and especially in Central California, plants set in the field during September should mature during December. In warm weather the lettuce should be cut early in the morning and never when the heads are wet, as in that condition they will heat and quickly rot. The field is gone over from two to five times during the cutting season.

At the university farm vegetable garden, 80 different varieties of lettuce were grown during the past season, and most of them did well. However, now most in favor in California are the Los Angeles or New York Market, which is best adapted for long distance shipments and which withstands cold weather injury but is not adapted to maturing during hot weather.

The chief difficulties the lettuce grower meets are lack of a satisfactory stand, due to unfavorable weather, seed of poor germinating power, or to over-irrigation or under-irrigation; or diseases, such as "stem rot," a fungus disease controllable by good drainage, and "sunburn," a blackening of the edges of the leaves inside the heads, caused by a period of excessive hot weather from the time the plants are half grown until they have commenced to head, and preventable by planting in the fall or early spring and by frequent irrigation during the spring if the weather is very hot and dry.

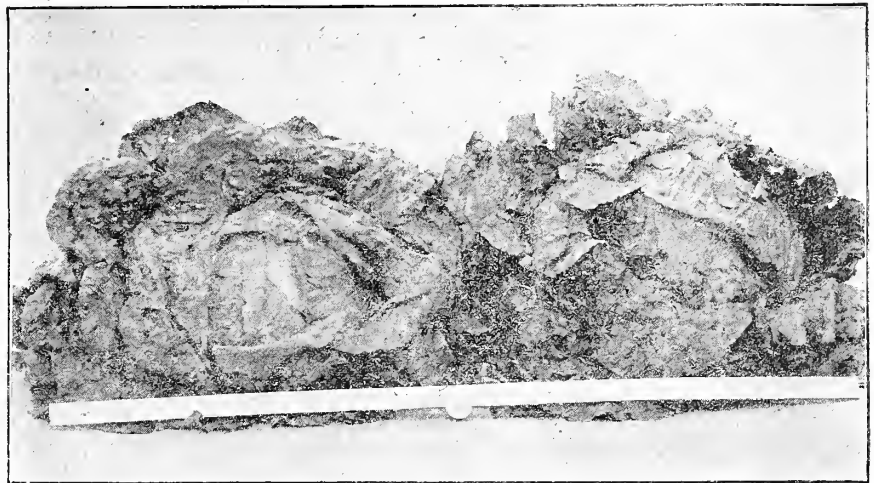
Lettuce is usually shipped in the pony lettuce crate, which weighs 66 pounds gross. About 310 crates are loaded per car. The average is given at 4½ to five dozen heads from Los Angeles County; 3½ to five dozen heads from Imperial Valley.

WHY IS IMPERIAL LETTUCE LARGER?

Probably because they allow it to mature to good size. Los Angeles growers are too impatient to fill orders, and this impatience is costing them one-fourth of their crop. This temptation to sell before the crops mature too often robs the grower of his profit. Remember almost all crops nearly double their tonnage the last two weeks of growth.

Iceberg This is next to Los Angeles Market as the leading variety for the Southwest during the summer months. Of course it is better during the winter months but not so solid as the Los Angeles Market, which is strictly a winter variety, while the Iceberg is a good all-season lettuce, and hundreds of carloads of Iceberg are being shipped when the other is not available. Iceberg lettuce planted later than March 1st should be grown on dark, heavy soil, because if grown on light, sandy soil the heat of the sun reflected from the sand on the under side of the leaves causes them to burn almost to the heart.

The light green, curled, red-tinged leaves of the Iceberg form heads as large as the Los Angeles Market, but not so solid, but it is as tender and crisp, and is of excellent flavor. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) (5 lbs. \$8.00) postpaid.



Los Angeles Market or A & M New York Special

This picture was taken in 1906 from the first field of this variety grown in the United States

Los Angeles Market or New York Special

One of Aggeler & Musser Seed Co.'s Big Money-Makers. This is one of the many vegetables introduced by us which have become of great value to the growers of Southern California. Like the Pearl Cauliflower, Winnigstadt Cabbage, and Golden Self Blanching Celery, thousands of carloads of this lettuce are being shipped from Southern California, Phoenix, Ariz., and many carloads from Southern Texas. This is surprising when only a few years ago we were requested by one shipper to get a lettuce that would stand shipping better than the smooth leaved varieties. We experimented with a curled variety and developed this hard headed type that weighs more than two pounds per head. We shipped the first crate to a friend near Philadelphia, Pa. It arrived in perfect condition and kept good on ice for a period of three weeks, until consumed. We then introduced this as the Los Angeles Market Lettuce. It at once created a sensation with the growers, and later with the shippers, when they learned it would carry to the far east as well as cabbage. It is now shipped more extensively than any other vegetable.

This Los Angeles Market lettuce was later offered by other seedsmen in other parts under other names, such as **Wonderful** and **New York**, but as it was introduced from here and grows to perfection around Los Angeles during the winter months, the name **Los Angeles Lettuce** is aptly applied to it by dealers and consumers everywhere in the United States. (Pkt. 7½c) (oz. 20c) (¼ lb. 70c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Read:—STANDLEE BROTHERS, at Brawley, Calif., planted fifty acres of our Los Angeles Market. The first planting yielded 22 cars of 304 crates each, 3½ dozen to the crate, and sold at \$3.00 per crate. They shipped 54 cars from 55 acres. The December planting was blighted during April, therefore, we advise planting during September and October to obtain the best results in Imperial Valley.

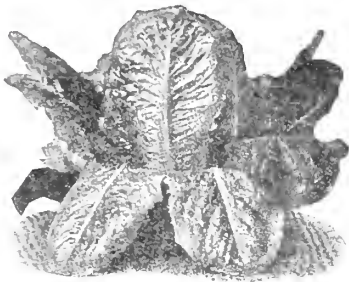


Los Angeles Market Lettuce being loaded in the field. This truck carries 120 crates, about 8000 heads. One-fifth of an acre, and is worth about \$120.00.

LETTUCE--Continued

Big Boston Very large, smooth-leaved, solid-heading variety; grown more extensively throughout the east and south than any other. It is congenial to all climates, and is a good shipper. In flavor it probably excels all other smooth-leaved varieties. An excellent all year round lettuce. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (1b. \$1.50) (5 lbs. \$6.00) postpaid.

Hanson Without exception this is the best variety for late spring and mid-summer crop. Prof. F. W. Mally, Farm Demonstrator of Webb County, Texas, discovered Hansen Lettuce to be resistant to both heat and disease and particularly resistant to eel worm which is often prevalent where least expected. Hansen Lettuce is similar to the Iceberg Lettuce, except that it has not the tinge of red. We recommend it for the home garden. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (1b. \$1.50) (5 lbs. \$6.00) postpaid.



Paris White Cos

which the buyer would avoid. When you plant the Way-a-head you will have the best smooth-leaved variety on the market. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (1b. \$1.50).

May King

Very similar to Big Boston, without the tinge of red. It is a good shipper and of excellent flavor. (Pkt. 7½c) (oz. 10c) (¼ lb. 40c) (1b. \$1.25) postpaid.

Way-a-head

A large solid-headed smooth-leaved type. All green, none of the red tinge that is so much objected to on the part of the shipper and the retailer because the red tinge suggests staleness.



Chinese White Mustard

Common Wild

(Pkt. 7½c) (oz. 10c) (1b. 40c) postpaid.

White Better for salad or culinary purposes. (Pkt. 7½c) (oz. 15c) (1b. 75c) postpaid.

Southern Giant Curled

The true curled-leaf variety so popular in the South for planting in the fall. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (1b. \$1.25) postpaid.

Ostrich Plume Mustard

is delicious as well as ornamental; the leaves resemble ostrich plumes, hence the name. (Pkt. 7½c) (oz. 15c) (1b. \$1.50) postpaid.

Paris White Cos Upright, crisp and tender. Cos lettuce is becoming deservedly popular, and should receive more attention from market gardeners. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (1b. \$1.50) (5 lbs. \$6.00) postpaid.

Marblehead A lettuce of great favor in the East because of its delightful flavor, and because it there grows to perfection from early spring until late fall. For the Southwest it is our best summer lettuce, but like all other varieties with us, it attains its perfection during our winter months. Plant all the year round. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (1b. \$1.75) postpaid.

Early Curled Simpson This is a very popular variety as a loose leaf lettuce. The leaves are large, thin, very tender and of very good quality. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (1b. \$1.25) (5 lbs. \$5.50) postpaid.

California Cream Butter This lettuce is similar to the Big Boston. Is a good shipping variety. One gardener sold from one-half acre of this lettuce nearly three hundred dollars' worth. It is of good flavor and beautiful in appearance. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (1b. \$1.25) (5 lbs. \$5.50) postpaid.

Tennis Ball Similar to the California Cream Butter, except in size and without the tinge of red. It forms a solid head and is best for early spring. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (1b. \$1.25) (5 lbs. \$5.50) postpaid.

A & M LEEK

A & M Leek We believe in having the best of everything. With this idea always before us, we have secured this fancy strain of leek. It is large, white, tender and mild—the best in the world. Its mild, delicate flavor makes a delightful addition to lettuce salad. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.15) (½ lb. \$2.00) (1b. \$3.50) postpaid.

A & M Mustard**Chinese White**

This is a delicious vegetable and flavors strongly of Brussels Sprouts, being less pungent than the American varieties. It is greatly relished by the Orientals, and can be seen all the year round at vegetable stands kept by the Japanese and Chinese. (Pkt. 7½c) (oz. 30c) (¼ lb. \$1.00) (½ lb. \$1.50) (1b. \$3.00) postpaid.

Chinese Green Mustard**Chinese Green**

This is an Oriental vegetable, and like the White Mustard, is grown all the year round, but like our American Spinach, thrives best in the winter season. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (1b. \$4.00) postpaid.



Chinese Green Mustard

A & M Mushrooms

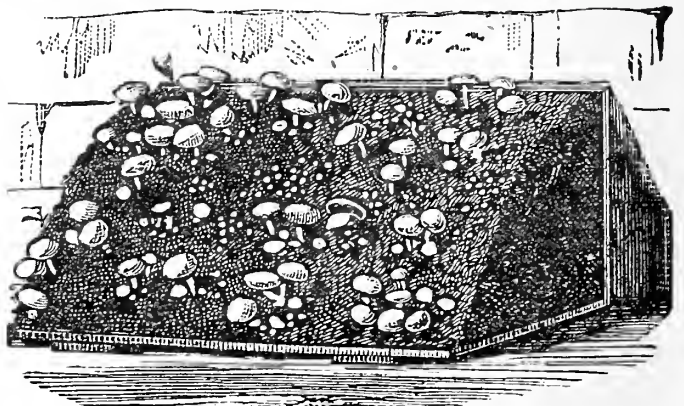
One of the most profitable crops for the outlay that can be grown. The market is sure, because the supply never equals the demand. Mushrooms can be grown in any dark room or cellar where the temperature can be kept at 50 to 75 degrees. The main conditions in mushroom growing are proper and uniform temperature and very rich soil. One pound of spawn is sufficient for a bed 2x8 feet. We have the very best spawn obtainable. If interested, write for circular.

Pure Culture Spawn—Brandywine—Put up in bricks. Per brick, 30c; by mail, 40c.

Address University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 84, entitled, Mushrooms and Toadstools.

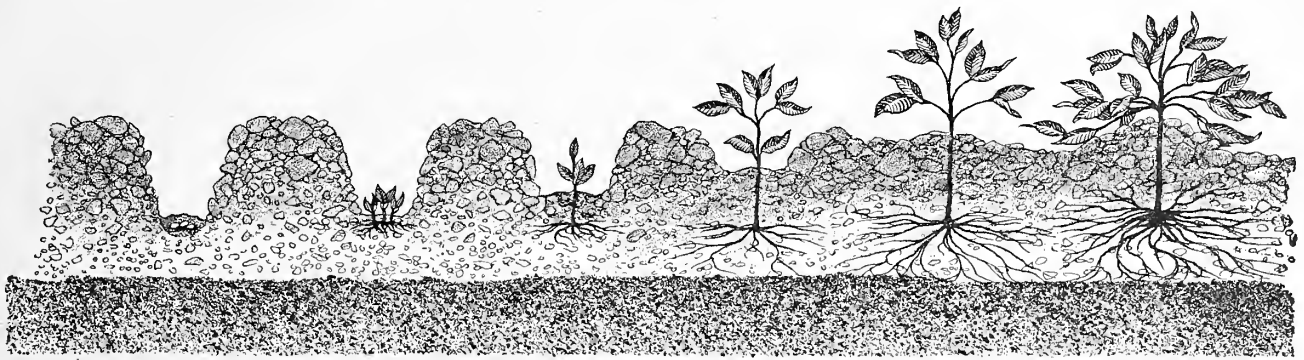
All statements, figures and descriptions given in this catalog are authentic and can be verified. The pictures with few exceptions have been taken from life. The quotations that appear throughout the book are from letters written us by pleased customers. They are included here, that the information imparted may be of value to you.

When in doubt, read this catalog, and if still undecided then, write us about it.



Read this page carefully; it may prove of much value.

Deep Planting for Dry Farming to Insure a Healthy Growth



Planting

Second Week

Third Week

Fifth Week

Seventh Week

Last Cultivation

READ CAREFULLY (STUDY PICTURE)

Pulverize the soil thoroughly 10 inches or deeper. Make your furrows deep; plant the seed in the bottom of the furrow, and cover one inch deep for vine seeds and two inches for potatoes. In one week the sprout should be above the ground and the plant well rooted. In two or three weeks the vines will be beyond danger from the beetle and should be thinned leaving two plants, and the earth drawn toward the plant until it is about level. In four or five weeks, with plow or cultivator, throw the earth around the plant until the soil is hilled up about the plant and the root system is ten or twelve inches below the surface, but bear in mind that the little feeders come to the surface, and after five or six weeks, cultivation should not be more than two inches deep.

This cut shows the method of planting when dry farming is intended. If available, irrigation will be beneficial. If this method is followed, there will be little danger from blight and the vines will be healthy enough to resist other diseases.

Remember—Apply this method also when transplanting Tomatoes, Cabbage, Cauliflower and almost anything but Sweet Potatoes.

Important Information on Culture

A good rule for planting and irrigating melons, squash, pumpkins, cucumbers and tomato plants.

The soil must be thoroughly soaked two or three feet deep, either by rain or irrigation. When dry enough spade or plow ten or twelve inches deep. Thoroughly pulverize the soil. Make furrows eight or ten inches deep.

Plant the seed in the furrow at regular distances apart, four feet for cucumbers and bush squash, six feet for muskmelons, eight feet for casabas, and ten feet for watermelons, pumpkins and vining squash.

As the plant grows gather the soil around it until the roots are twelve inches or more below the surface. Thin out all surplus plants as soon as they are hardy and well established. The rows are now straight and an equal distance apart. This makes it easy to cultivate close to the hills, both lengthwise and crosswise. Cultivate deeply as long as there is no danger of disturbing the roots. Be always mindful that the roots are as long as the vine, therefore, when working close to the hills and among the vines, let the hoeing or cultivating be shallow.

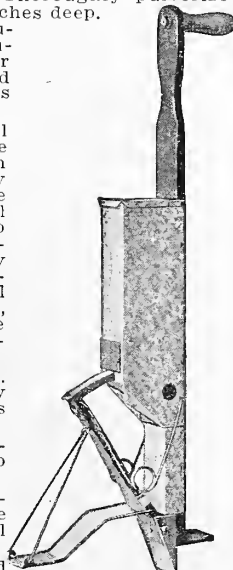
Do not irrigate close about the hill. Always make the irrigation furrow nearly as far from the hill as the tips of the vines.

Always cultivate the irrigation furrow as soon as it is dry enough to mulch nicely.

Heavy soil or loam requires less frequent irrigation than sandy soil. The term irrigation means soaking the soil thoroughly, not lightly.

If this rule is intelligently adhered to your vines will never suffer from drouth, or root blight, and will be healthier in every way, because the roots are deep down in the cool, moist earth unaffected by the heat of the sun. This is the secret of success with all midsummer planting.

This method also applies to the transplanting of tomatoes.



Segment Corn Planter. All large melon growers are now using the Segment Corn Planter—it does the work better. Price \$2.00 f. o. b. here. Wt. 5 lbs.

FOR ALL KINDS OF MELONS

FOR APHIS—First keep the vines hardy by deep planting and, proper cultivation, irrigation and fertilizers. Then if the aphid appears, which is unlikely, spray with Black Leaf 40, or bury the affected part with dust. Either way is a constant fight. Lady bugs in some instances are doing the work satisfactorily.

FOR MELON BLIGHT that is caused by a fungus at the root, spray the hill freely with Bordeaux so that the liquid will follow the stem several inches beneath the surface. This should be done as a precaution rather than as a remedy.

One grower reported to us that the melon wilt was destroying his vines. We advised him to apply a cup of Bordeaux to the stem of the plant at the surface of the ground, and soak it in until it was thoroughly applied. This is to destroy any fungus that may exist there. He did so and reported that it saved his field and some of the vines seem to have grown six inches during the first night. Try it.

READ THIS. If you would prolong the life of your vines, make a path between the rows by training the vines to grow along the rows, and not across from one row to the other. Then at picking time do not allow the pickers to tread upon the vines. To do so makes many culls and shortens the life of the vines and lessens your profit about one-third.

A New Remedy to Combat the Beetle from Wm. E. McAfee, Kentucky:

"I note your preventive remedy for the Melon beetle. We have one here that is very simple, profitable and effective. When you plant your seed, set an onion set in each hill close to the point where the melon plant will come up. After the plant is out of danger you can market the onion if you so wish. I tried this remedy last year and saw but three bugs in my patch and these did no harm. I had the same experience with my cucumbers."

READ

Mr. Butler of Lamanda Park says: "Last year I had Melon blight and tried your Bordeaux remedy with good results. This year I tried your deep planting method and had no blight."

Bran Mash for Cut Worms

Paris Green 1 lb., lemons 3, molasses 2 qts., water 3½ gals., bran ½ bu. Mix bran and Paris Green dry; cut lemons into fine pieces. Mix all thoroughly. Or use Cut Worm Killer. See page on Insecticides.

READ THIS

We are continually getting letters of inquiry for just such information as is given in this book. We are pleased to get the letters, but if the writers would first look to the subject of their inquiry, they would in many instances save themselves trouble and time.

This Catalog comprises a list of all vegetables and farm seeds offered by us, all of which have been tried and proven to be adapted to climatic conditions of the Southwest and Mexico. BUT always have in mind, each season, even each month requires not only different varieties of seed but different strains of the various varieties. For instance, Los Angeles Market Lettuce is the best of all when planted from August 1st to February 1st, but planted at other times is very inferior, while Marblehead and Iceberg Lettuce are best suited to the Summer months. This applies only to the climate of the Southwest. What is true of lettuce will apply also to potatoes, beans, melons, onions and many other vegetables.

Our Selected Melon Seed Owing to our extensive trade with large melon growers and associations, we exercise every precaution possible to secure the best type of melons. Having procured the best seed obtainable, we have them grown especially for us. Our seed fields proved the wisdom of this method, for they showed the highest per cent of perfect melons.

Read inside front cover.

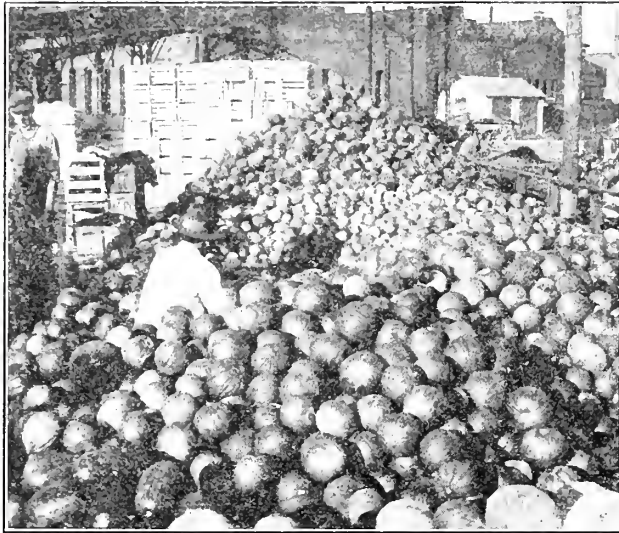
A & M Casabas

(If interested write for our Casaba circular)

The casaba can be grown successfully throughout the Southwest.

The casaba is now at full zenith of popularity. Previously it was grown as a late melon to mature after the cantaloupe season. As a late melon its popularity was confined to a limited section near the Coast of Southern California. But it is now demonstrated that it can be grown in all semi-arid sections side by side with the early cantaloupes and watermelons. The carloads of large perfect casabas of the Golden Beauty variety that were shipped from the San Joaquin Valley during the past two seasons, have proven the value of the casaba as an early melon and good shipper equal to the watermelon and cantaloupe. Casabas are shipped to Los Angeles and San Francisco without crating, as are watermelons.

Our prophecy made years ago is now fully realized. We then stated that casabas would be shipped to Eastern markets in carloads, becoming one of California's many commercial products of great value. Stanislaus and Los Angeles counties are most conspicuous as shipping centers. More than one thousand carloads were shipped from these points in normal times.



Golden Beauty being packed for shipping



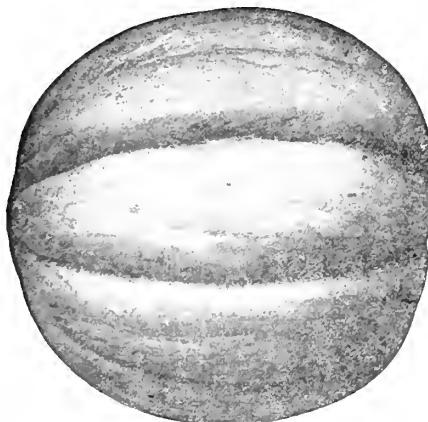
Golden Hybrid

The Hybrid Casaba—Grown in the Imperial Valley with early cantaloupes and watermelons, shipped without crating in the same car, it appears on the market the latter part of June and commands a much higher price per pound than watermelons. It at once finds as ready sale as other melons, and continues in unabated demand until after the New Year, when all other melons have long since disappeared from the market.

Cultivate the same as muskmelons. Plant according to your locality, from February 15th until July 15th; for late shipping June 1st to July 15th seems to be the best time for planting.

Casabas may be taken from the vine as soon as they lose the green luster, but should not be eaten until the hard rind of the Pineapple and Golden Beauty will give slightly under pressure, but the Hybrid is not at its best until the thumb can make an impression as in a mellow apple.

The best way to keep the casaba late into the fall is to gather them together on the hill and cover them completely with the vines, but do not pick them off the vine.



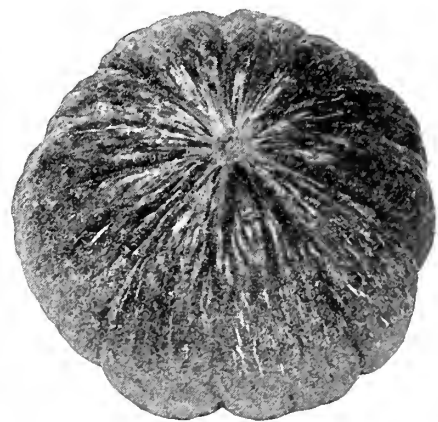
A & M Hybrid

A & M Hybrid

This is a cross between the Winter Pineapple and the Montreal Muskmelon. It grows to a very large size and is of delicious flavor. It is a rampant grower and yields enormously; as many as seven large melons were taken from one vine. It is profitable, early and late. Plant from March 1st until July 15th. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Improved Hybrid

The melon that made Los Angeles famous. This melon is now grown as extensively for a mid-summer crop as the muskmelon, and finds as ready sale. It originated locally, and is as distinctly a Los Angeles product as is the Los Angeles Market Lettuce. Both have made Los Angeles famous. The local and traveling public are now fully awake to the delicious flavor of this casaba. For the home garden or for the market plant the Prince of All Casabas. (Pkt. 7½c) (oz. 30c) (¼ lb. 80c) (½ lb. \$1.40) (lb. \$2.50) postpaid.



Improved Hybrid
The Prince of All Casabas
introduced by us in 1902

Golden Hybrid **ATTENTION GROWERS:**—We first offered this Casaba last spring. We were disappointed that so few of them appeared in the market last season. We give the melon our personal endorsement; it is as excellent as the Green Improved Hybrid, and its yellow color is in its favor for selling purposes. It will supersede the Green Winter Pineapple as the Golden Beauty superseded the Green Winter Pineapple. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (lb. \$3.00).

The grower that will supply the market with the Golden Hybrid will be the first to sell and command the highest price.

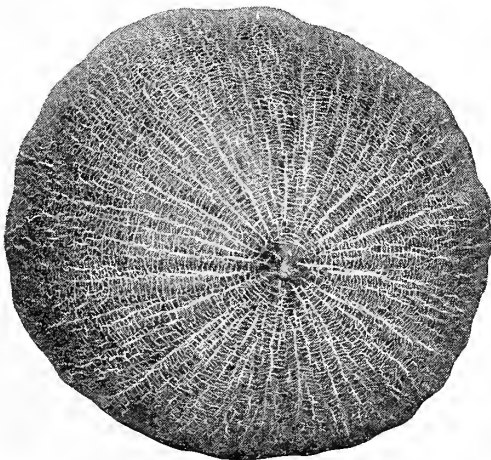
A & M CASABAS--(Continued)

Golden Beauty Introduced by us in 1906, it at once became popular locally. It is now grown more extensively throughout California than any other casaba because of its beautiful appearance, excellent shipping qualities and delicious flavor. It is the casaba that added much to the fame of California, as well as adding a million dollars each year to the wealth of the state. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.30) (lb. \$2.50) postpaid.



Golden Beauty

Winter Pineapple This is the first of casabas introduced into America. We have carefully maintained the purity of type so that it is now just as distinct as when introduced nearly forty years ago. This and the Golden Beauty are identical in all except color, which when mature is light green. The Winter Pineapple is more profitable as a late melon, therefore we recommend to growers near the Coast that it be planted during June. Our type of Winter Pineapple is round, selected for its good shipping qualities. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.30) (lb. \$2.50) postpaid.



True Armenian

A & M True Armenian Melon This melon is in a class by itself, just as distinct as the Casaba or Muskmelon, but it is here to stay and is growing more popular each year. There is a persistent tendency to variation as to type, but all melons are good ones. Do not hesitate to plant it. (Pkt. 7½c) (oz. 30c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00) postpaid.

Honey Dew

The melon with an appropriate name



Honey Dew

Honey Dew The melon with an appropriate name. The Honey Dew again made good last season. It exceeded other melons in popularity on the local market and was profitable to the grower. It yields enormously, and every melon is a good one.

It is ready to pull when the color shows the slightest tendency toward yellow, and ready to eat in a few days when it is slightly soft.

The picture is typical of its shape, the average size is about as large as a cocoanut, but the smaller sized melons are not inferior in flavor. Every melon is a good one. Flesh is light green and sweet as honey. The rind is light green or silvery-gray in color, smooth as an egg and hard as the rind of a winter squash. It is therefore a good shipper, and unlike the casaba, it is good right off the vine, and will keep good for months. This is in its favor for shipping.

As a local melon, it advertises itself. The first one eaten creates a desire for more. The peddler soon discovers his customers are asking for it. He must have it.

Plant it in your home garden. It will afford you more pleasure than any other vegetable you have. But don't plant it near cucumbers or casabas.

(Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00) postpaid.

Golden Honey This is quite distinct from the other casabas, and you will believe it has some special merit not possessed by the others or we would not offer it. Its great merit is its good keeping, good shipping, good looking and good tasting qualities. It is round as a cannon ball, size of a cocoanut, yellow as an orange, hard and solid as a base ball. May be shipped to New York in November and served for breakfast at Christmas to the delight of the consumer.

Size 6 inches in diameter. Wt. 4 lbs. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00) postpaid.

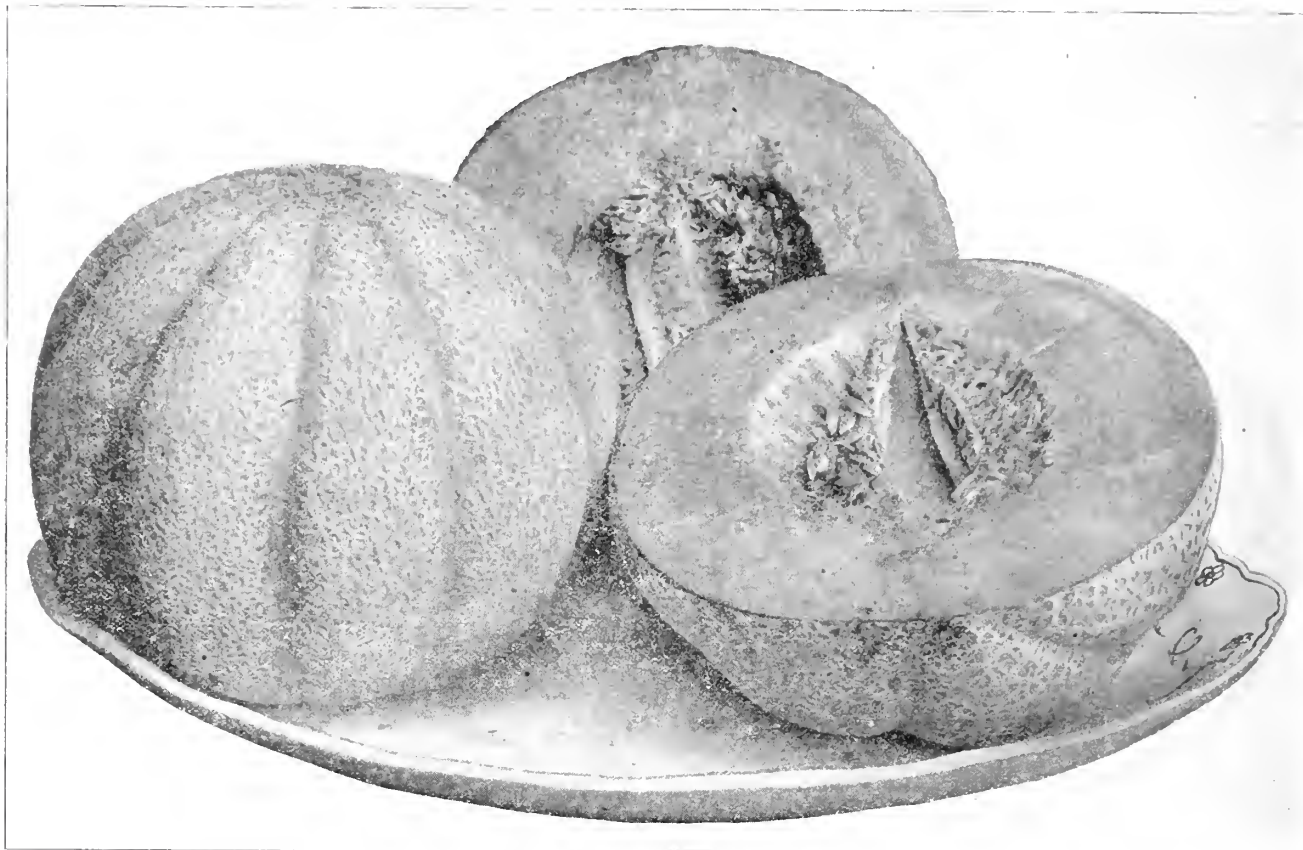
Santa Claus

The name is appropriate to the melon. It is a delightful present to send to your Eastern friends at Christmas. It is of delicious flavor, beautiful in its mottled gold and black coloring, and readily keeps until January. We advise that it be grown more extensively for the local trade. The supply has not been equal to the demand for several years. (Pkt. 7½c) (oz. 25c) (¼ lb. 80c) (½ lb. \$1.30) (lb. \$2.50) prepaid.



Santa Claus

A & M Muskmelons



The Famous Indiana

Yellow Flesh Varieties

The Famous Indiana Introduced at a wayside market two years ago by a newcomer from Indiana, whose name is Mr. Emil Hauenstein. Motorists soon learned the excellence of this melon and it was not unusual to see a score of machines in front of this market and customers impatient to be waited on. This picture perfectly portrays the melon which has a rich yellow flesh and a flavor that may be compared with the Armenian melon. It is heavily netted, very thick meat and holds up in good condition for several days. (Pkt. 7½c) (oz. 30c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00).

In offering this melon we are quite in line with our established policy of bringing to your attention only the varieties that have been tried, proven and known to be of exceptional merit. We did the experimenting, you take no risk.

Butler Brothers of Lamanda Park, say of it, "It is an improvement over the Tip Top, your seed is pure, the melons are uniform."

We believe they are better than the Tip Top. A letter from our seed grower says, "All the melons I am growing for you are fully up to your description. The Indiana is by far the best melon that I am growing for you, the seed is very pure as all the melons are uniform in appearance."

"The Pineapple and Triumph are hard to beat, they are the best green fleshed melons I have ever grown, very solid and heavily netted."

Improved Osage This has for many years been one of the leading varieties in the East because of its earliness and excellent flavor. It is of medium size, salmon flesh, with green rind, similar to the well-known Burrell's Gem. Once a customer for Osage, always a customer. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Improved Burrell's Gem Has established itself as a standard melon. It is one of the biggest yielders. The shipper calls for it because it is solid and carries well in transit. The consumer wants it because of its excellent flavor. The growers all want our seed because we have the best strain. Many growers who bought of us last year have engaged their seed for next season. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Yellow Flesh Columbus This excellent muskmelon originated here and was introduced by us three years ago. It at once became popular with the cafeteria and hotel trade, where the entire crop of the first year was consumed. The second year the peddlers discovered that it would carry two and even three days on their wagons without deterioration. The storekeeper, too, learned of its good keeping qualities, and the housewife learned to know that every melon is a good one, so that it is now one of the most popular muskmelons in the Los Angeles market. A slightly oval melon about seven inches in diameter, entirely without ribs, but roughly netted; color, outside light creamy, inside yellow. It is enormously productive. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

GREEN FLESH VARIETIES

A & M Nutmeg This melon, in appearance, is so similar to the Pineapple that many growers fail to notice the slight difference in shape and netting, but the greatest merit is its excellent flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

A & M Triumph Is similar to the Pineapple, but not so large. This is much in its favor, as gardeners are complaining that the Pineapple is too large. It excels the Pineapple, in the excellence of its flavor, and is two weeks earlier. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

Rocky Ford (Pollock No. 25) The flesh is light green in color. The flavor is exceedingly fine. The skin is regularly ribbed and thickly netted. It is a firm, solid melon and will carry in perfect condition for a week or more after its removal from the vine. It is a heavy cropper, and in wide favor as a market melon. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

Our Gold Lined Netted Rock This is the Rocky Ford with the tinge of yellow around the seed cavity bred up to the highest state of perfection from the rust-resistant strain. The heavy netting forms a rind so hard that it will ship to the far Eastern markets with practically no deterioration. The flavor outclasses all other strains of Rocky Ford. Turlock growers and shippers will have no other. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

Jenny Lind An old time favorite; small, heavily netted, well ribbed, very early and of excellent flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

A & M MUSKMELONS—(Continued)



Tip Top—The Popular Muskmelon in Southern California.

A & M Tip Top

This melon is very popular almost to the exclusion of any other variety. This is a fine, round melon of such attractive appearance as to always sell quickly in the markets. It is sweet, juicy and delicious. The flesh is firm, but not hard, and is edible almost to the rind. The melon is of medium to large size and is one of the best yellow fleshed varieties. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$2.00) postpaid.

Los Angeles Market This is the largest of all the Muskmelon family, and we positively state that none will excel it in flavor. Gardeners object to its large size, but good profit will come to the grower who will plant it. It yields an enormous crop and all melons are very large and beautiful. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

Pomegranate, or Peach-Melon For Mangos. (Pkt. 7½c).

Large Hackensack A large, round melon, flattened at the ends and well ribbed. Sometimes called Turk's Cap. The skin is deeply netted. The flesh is green, of delicious flavor. It is a strong grower, and is very productive. An old standard melon, in favor with market gardeners. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 85c) (lb. \$1.50) postpaid.

A WORD ABOUT SHIPPING

An independent grower may occasionally make a very advantageous sale to a chance eastern buyer and conclude that he would be justified in making a business of shipping individually or in the language of the trade, "Be an independent shipper." When that idea comes to you just sit down a minute and figure for yourself. To build up and to hold a regular trade you must grow crops in quantities of car lots and grow them at the right time. You must be your own bookkeeper, and packer; assume all the risk of loss in transit, the risk of collection unless you receive cash in advance which is not the usual way.

Would it not be a saving of nerves, energy and less chance to lose if the grower with twenty to one hundred acres would grow seasonable produce and have something for the shipper nearly every month in the year, he would be relieved of much tedious detail and risk of loss, because he would need only to deliver his entire crop when ready at the nearest packing house receive settlement and go about his business without any care other than his growing crops.

These crops must be governed by the soil and climatic conditions.

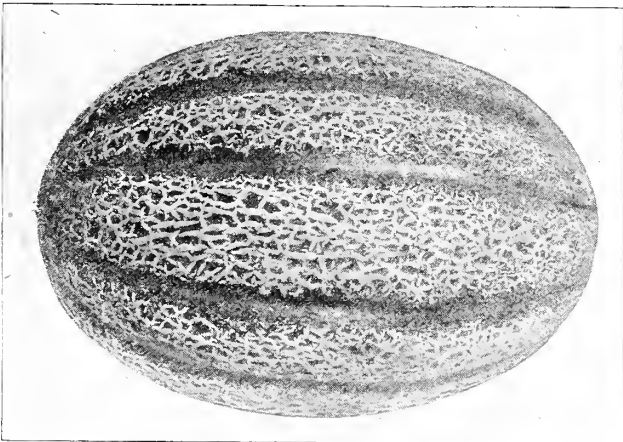
But throughout the southwest and in California particularly there may be some vegetable crop ready for the market each month of the year.

Have ready for the shipper some crop in November, December, January, February, March, April and May.

Have something for the canner—spinach and beets in March and April; tomatoes in July, August, September and October; pumpkins in November and December.

If in doubt what to plant see us about it.

See the list of books offered on page 8.



The Original Gautier Pineapple

The Original Gautier Pineapple

All old-time melon growers will remember the popularity of the muskmelon introduced at this market by Mr. Gautier, and for years known as the Gautier Pineapple.

It is medium to large size, heavily netted, green-fleshed with excellent flavor; solid and a good carrier.

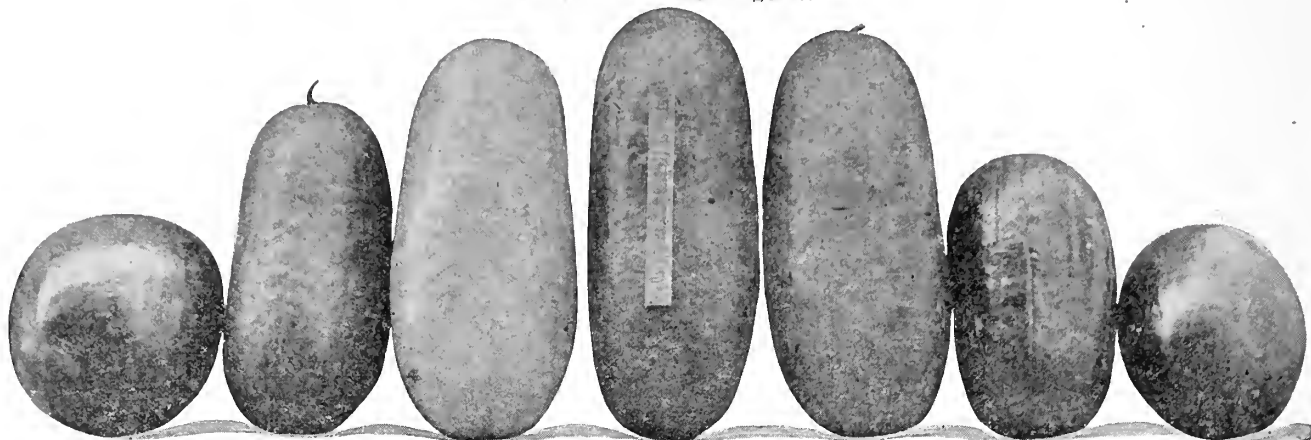
The true type was running out and fewer of them grown.

We are now able to announce that we again have the true type and recommend it to melon growers that they may again get the Old Original Pineapple Muskmelon. (Pkt. 5c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75).

A & M Watermelons

Write United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., and ask for "Farmer's Bulletin No. 821," Watermelon Culture.

How to Plant. See Page 37.



ANGELENO BLIGHT PROOF IRISH GRAY TOM WATSON EXCEL KLONDIKE CHILIAN

All the varieties of melons shown in this picture were grown under contract for us. It would be hard to imagine more prolific fields of large perfect melons than was the Tom Watson, Irish Gray and Excel. Eighty pound melons were numerous. Fifty pound melons were common, and the average would run fully 30 pounds and not an impure one in any of the fields.

Mr. Grower, you cannot get better melon seed than we are offering you.

Culture—Plant the seed in a furrow, dropping six seeds every eight or ten feet apart; cover about two inches. As the vines grow, hill the earth about them until the roots are ten to twelve inches deep. When the vines are safely established, thin out, leaving only two vines to the hill. It is a good plan to establish your rows by throwing the soil toward the center, with one round of plowing, and cultivate every week during the early growth of the plants. This gives deep cultivation at the time it is needed, mulches the soil properly, makes proper rows slightly raised in the center, allowing a low place between for irrigating. Be sure to cultivate after each irrigation, as soon as the nature of the soil will permit. If these instructions are carefully followed you will have thrifty vines throughout the season.

For Dry Farming Mr. Charles Richardson says plant 16 ft. apart in rows 18 ft. apart.

For Melon Blight—Mr. Van Norman of San Gabriel says: "Cover the centers where the blight first appears, with soil. It gives new life to the vines and prevents the spread of the blight."

For Melon Wilt—Pour a cup full of Bordeaux Mixture at the main stem so that the earth will be saturated and the liquid thoroughly applied to the stem. Here is the seat of the trouble, whether fungus or an insect, and the Bordeaux will remove the cause. Butler Bros. of Lamanda complained to us that their vines were dying of wilt. We recommended this remedy which they at once applied only to the vines attacked, with the result that the vines revived, and in one night appeared to have made a new growth of six inches. They then applied it to the entire field, and saved it for the season. But Mr. Butler says toward the close of the season it appeared again, and he believes the Bordeaux should be applied at least twice during the season.

Chilian For twenty years the leading melon and just as popular today as at any time, and is likely to continue its popularity for many years to come. Its thin rind and delicious flavor commend it to the consumer, but its good shipping and selling qualities make it a favorite with the grower and dealer. It is very prolific and just a desirable size for the peddler to handle, and every melon is a good one.

White Seeded Chilian Preferred because of its large average size.

Red Seeded Chilian Preferred because of a sweet flavor peculiar to itself, and earliness.

Black Seeded Chilian Preferred because of its earliness, short crop and black seed, which gives it preference at restaurants, hotels and cafeterias.

All Chilians are good regardless of the color of the seed, but the Black Seeded one is planted for early crop.

Price of all Chilians (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50).

Mr. Frank Johns, from Riverside County, writes us: "I want your very best watermelon seeds. Those you sent me last year were good enough. I sold \$174.00 worth from ½ acre. That is why I prefer good seed."

White Seeded Angeleno The most attractive in appearance of all watermelons,—its large size, beautiful dark green rind with a tinge of gold showing through the green. No other variety compares with the Angeleno in its bright red flesh, red to the rind and entirely free from fibre, simply melts to water, and not excelled in flavor. If the picker will observe the gold showing through the green as soon as it is ripe, he need never pick an unripe melon.

As a shipper it is extraordinary because it rarely breaks, even supporting the weight of a man weighing 170 pounds. A carload will average in weight from 25 to 30 pounds to the melon. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

Important Notice—Owing to the tendency of the seed of this melon to split open, we advise you to soak the seed in water for only a few hours. It soon closes and is ready to plant, and every seed will germinate, but if planted before soaking, the seed fills with dirt and decays. Please heed this notice.

EMMIT H. SMITH, Willows, Cal.:

"Your Klondike is the finest melon we ever ate." That is what they all say.

Black Seeded Angeleno Owing to the persistent demand for a black seeded melon, we have by hybridizing the Angeleno with the Black Seeded Chilian, and by four years of selection, succeeded in producing a pure Black Seeded Angeleno. It lost none of its excellence; indeed, if it were possible, it has improved. This improvement is noticeable in melons that show a trace of the stripe of the Chilian.

If you want a black seeded melon, do not hesitate to plant the Black Seeded Angeleno.

(Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Red Seeded Angeleno In the process of breeding the Black Seeded Angeleno we have some Red Seeded Angeleno. This melon differs only in showing more of the stripe of the Chilian. The quality of the melon excels in sweetness the pure White Seeded Angeleno. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

Rattlesnake Has long been a popular melon with shippers. It is a long melon, having a white rind, with dark green stripes. Flesh of excellent flavor. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (½ lb. 60c) (lb. \$1.00) postpaid.

Yellow-Fleshed Ice Cream Watermelon

This melon grows to a very large size, is long in shape and the rind an even dark green. In quality it is simply delicious, sugary and of a rich flavor peculiar to itself. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

A & M WATERMELON—(Continued)

Klondike This is now undisputably the most popular melon on the Los Angeles market. Why? Because it has a flavor quite as distinct from other watermelons as is a Bartlett pear from any other pear, and is sweeter even to the thin rind than any other. It is popular with the grower because it is wonderfully adapted to dry farming; wonderfully prolific, early, long and continuous bearing; the vines seem in their prime in September and October, long after other varieties have disappeared. Planted in rows twenty feet apart on dry soil that has been scientifically prepared the vines will interlace.

The seed is small. One pound of Klondike will number as many seeds as two pounds of other varieties. The color of the seed is brown, mottled black. **Brown seed (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.**

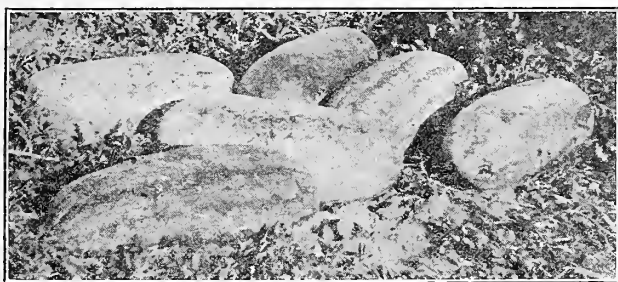
Black Seeded Klondike Owing to the demand for a black seeded melon, we have done with the Klondike precisely as we have with the Angeleno. See description of Angeleno.

(Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00)

The Tom Watson has for several seasons been the most popular melon in the South. Its shape is similar to the Kleckley Sweet, but the color is a lighter green. Its great merit is in its earliness, good flavor, thin rind, and good keeping qualities, making it one of the best of shippers. It is popular in the San Joaquin Valley. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

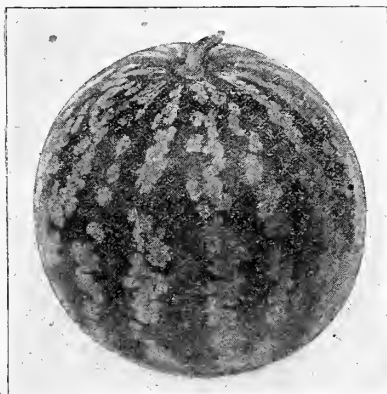
Blight-Proof Melon The Department of Agriculture sent out sample packet seeds of a "Blight-Proof Melon." Mr. Bergman of Burbank had expressed to us his regret that he could raise no watermelons because of the blight which infested his soil. He planted this packet of seed in this soil, and sure enough there was no blight. Even without irrigation the vines looked thrifty, and the picture shows a 32-lb. melon grown on the dry, blight-infested soil. This melon, as well as every melon we opened, proved to be of excellent flavor and would prove to be a good shipper. We do not hesitate to recommend it for any purpose, but especially to be planted where blight exists. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Kleckley Sweet This is an excellent melon either for the home garden or for shipping. It is of medium size, a very green rind, with deep red flesh of delicious flavor. Our seed positively cannot be excelled. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.



Florida Favorite

Florida Favorite This melon is very popular with shippers, because of its extreme earliness, and all round good qualities as a good shipper. In appearance it is similar to the Rattlesnake, the rind being considerably darker. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.



Red Seeded Preserving Citron

field or piled in the barnyard will not be damaged by frost nor decay until the following summer. (Pkt. 7½c) (oz. 10c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

Preserving Citron

Red seeded, small round melon (see the picture). This melon with a proper portion of lemon makes an excellent preserve that is as good as marmalade. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50).

Citron Large Green Striped

Weighs from thirty to sixty pounds. Is better than a pumpkin for stock. Allowed to lay in

A NEW WATERMELON

Irish Gray A New Watermelon. See the picture. This new watermelon has the merit to become very popular as a shipper, also as a late melon. The introducer describes it as follows: "The color of the rind is yellowish grey, resembling a variety of Citron, and the rind is almost as tough as that of the Citron, it will keep in good condition for a long time after being taken from the vine, and stand long distance shipping better than any other melon, the flesh is bright sparkling red very sweet and firm. As a home market melon it is better than Kleckley Sweet and for distance shipping it is far better than Tom Watson, it will produce 25 per cent more good melons than Tom Watson under the same conditions and carry 1,000 miles and back over the same route then open as good as a fresh picked Tom Watson, the rind will not sun-bake, the vines are most vigorous and wilt resistant."

Our seed was grown in San Fernando Valley, under our supervision. We can verify the above statement and add that the flesh is sweet to the rind, even the white is sweet. We also discovered that even though the heart is over ripe and wilted, just remove all the over ripe part, and the balance is crisp, sweet and very palatable. It is enormously prolific.

(Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.20) (lb. \$2.25).

The Excel A new black seeded melon that has made a sensation in the South and in the San Joaquin Valley. Its surpassing merits are in the size (average weight per melon in car is 35 pounds), enormous yield, and excels all others as a shipper.

Read what the originator says of it:

"During the last two years a great many growers of watermelons for market have demanded another melon, claiming the Watson would not stand far distant shipping satisfactorily. During 1912 and 1913 I made numerous trial tests of a number of supposed new varieties, but none proved satisfactory excepting the 'Excel.' After my trials in 1913 I concluded to put out several hundred acres in 1914 for market, and the results of this crop was so satisfactory, and the melons pleased my customers so well, that I do not hesitate to recommend this melon as a market sort to every planter of melons. In fact, it will produce more large marketable melons under the same condition than any of the other sorts of the long variety, and its carrying and keeping qualities are unsurpassed."

We planted an acre on our trial grounds and find it is not only all that is claimed for it, but we were surprised at the excellence of its flavor.

We recommend it to all shippers who want a very large melon. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25).



A Delicious Winter Melon

Winter Melon This new melon is slowly but surely forcing itself into favor because of its many good qualities which are not apparent at first acquaintance. Like the Casaba which required 12 years to establish its reputation. The Winter Melon might easily be mistaken for a small white citron and the dealer must be convinced, then in turn must convert his customers to the knowledge that the Winter Melon is a thing of great luxury. It is late to mature; very light in color with a suspicion of a stripe; size 10 inches in diameter; seed small shiny black, flesh pink, solid and stringless. The flavor when cold is sweet, crisp and surprisingly delicious, and when you have finished you realize that you have eaten a melon as entirely distinct from a water melon, as the Casaba is apart from the Cantaloupe and just as delicious. Like the Casaba it should not be eaten right off the vine, but be allowed to lie around until the first signs of decay. It decays slowly like an apple, not like other watermelons. We prophesy this year of 1918 that the melon will be, sooner or later, handled in carlots for late fall shipping, as is the Golden Beauty today, because it has merit that will win.

The seed is scarce and while it lasts we will offer it at low introductory prices. (Pkt. 7½c) (oz. 30c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.00).

A & M Onions



80 acres of Yellow Bermuda Onions grown for us on the ranch of Mr. Geo. Beach in Coachella Valley.

Culture—No crop is so liable to variations by cultivation and soil as the onion. Having rich soil with too much irrigation will produce thick-necked scallions, while the same soil, well drained, would produce the finest onions. A sandy loam well fertilized is best.

No vegetable is so sensitive to variation of climate as the onion. It is of utmost importance that the right variety is selected for each month in the year, and for your particular climatic conditions.

Either drill the seed thinly in rows fourteen inches apart, or sow the seed in seed beds, and when the plant is as thick as a straw, transplant on ridges; set two rows on each ridge and four inches apart in the row.

Irrigate in the furrow between the ridges to avoid flooding the onion, which causes the onion to rot readily, rendering it unfit to ship or to keep.

To succeed in growing onions it is highly important to make a proper selection of seed suitable to the time of planting. West of the Coast Range plant early varieties in August and September. They will then attain marketable size in March and April. If, however, the weather during February and March proves to be cold and rainy, a large percentage will shoot to seed. We advise that you pinch off the seed stem close to the onion. It will heal with no damage to the onion. East of the Coast Range, where the temperature seldom goes below 25 degrees, plant the Crystal Wax or Bermuda onion in September. We advise planting all other varieties from October until April, selected according to the market in which they are to be sold, and the facilities for irrigating.

The consuming public prefers a white onion. The retail merchant wants a yellow onion because the white are too perishable. The shipper will handle the yellow, but prefers the brown because it is the best keeper.

The Southport White Globe is now popular because of its good keeping qualities.

Three pounds of seed are required to plant one acre for dry mature onions. One ounce will plant one hundred feet of row. For bunching onions, plant one-fourth pound of seed to 100 feet of row.

We claim our onion seed to be the highest type as to germination and purity. When you wish to plant onions consult us as to when, how and what variety to plant.

Onions intended for storage or long keeping should be taken up while the stems are yet green, just showing a tendency to dry up. Experience has proven that this is the best time. When allowed to remain in the field too long they are liable to be sun-scalded, or attacked with smut.

MARKET:—The market for onions is large; no other vegetable is in such wide demand and is used largely by all nations over the entire world, yet on account of the perishable nature a wide distribution is not possible; therefore, an over-production is soon a drug on the market and the grower finds the crop worthless.

Therefore, when planting them, select the variety according to the market for which they are intended, time of planting and your locality. The early shippers plant the Crystal Wax and Yellow Bermuda in September.

For shipment, you will make no mistake to plant Yellow Globe from September 15th until March; White Globe or Silver-skin November 1st until April 1st, and the Australian Brown from January 1st until April 1st.

For early local trade, plant Crystal Wax, Yellow Bermuda, Prize-taker, Denia, Giant Gibraltar, Ailsa Craig, and New Queen.

Growers of Bermuda Onions READ THIS!

We have a limited number of Prof. F. W. Mally's Bulletin on the subject of **The Bermuda Onion**.

It is thorough and complete in every detail of the culture of this onion,—preparation of the soil, seed beds, preparation of the field, planting, culture, irrigation, cultivation, fertilizing and marketing.

Much of the cultural instructions in this book will apply to other than The Bermuda Onion.

If you wish this Bulletin, send five 2-cent stamps either to us or to the Commissioner of Agriculture, at Austin, Texas.

White Australian This excellent large white Onion was introduced by us in 1908 and at once proved itself a good keeper.

It quickly found favor in New Mexico and Texas where it was found to be a good variety to succeed the Bermuda.

Seed has always been scarce because some seasons there was a total failure owing to our having attempted to grow seed in uncongenial climate. We now have a very limited quantity of new seed which we offer. (Pkt. 15c) (oz. 60c) (¼ lb. \$2.25) (½ lb. \$3.75) (lb. \$7.00).

Crystal Wax and Yellow Bermuda

These two varieties go hand in hand; they require the same climate and culture; where one thrives the other also thrives. They mature at the same time and bring about the same price on the market.

The Crystal Wax is a medium sized pure, waxy white onion. The Yellow Bermuda is about the same size as the Crystal Wax, but a yellow straw color.

These are the varieties that are grown in Southern Texas and in Coachella and Imperial Valleys to the exclusion of every other variety. Why? Because they are adapted to that climate; because when planted the latter part of September they mature in March and April, just when the market is here and the price is highest. Onion growers are satisfied with 300 crates per acre, and 25% off color. Our seed produces 500 to 800 crates per acre, with less than 1% off color.

Crystal Wax—(Pkt. 7½c) (oz. 60c) (¼ lb. \$1.75) (½ lb. \$2.60) (lb. \$5.00) postpaid.

Yellow Bermuda—(Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) (½ lb. \$1.75) (lb. \$3.50) postpaid.

White Portugal, or Silverskin

A good second early white flat onion to follow the Extra Early White Queen. It should be planted any time from November 1st until April 1st. It is a good keeper and desired for shipping. It has long been a favorite, and probably no other variety is more generally popular with growers throughout the United States. Under good cultivation the average diameter is from four to six inches. The thick skin is a clear silvery white, flesh snow-white, sweet and tender. (Pkt. 7½c) (oz. 65c) (¼ lb. \$2.00) (½ lb. \$3.00) (lb. \$6.00) postpaid.

To obtain the highest price, this variety should be planted about February 1st; they will then mature about Aug. 1st, and if the prevailing price is too low put them in cold storage.

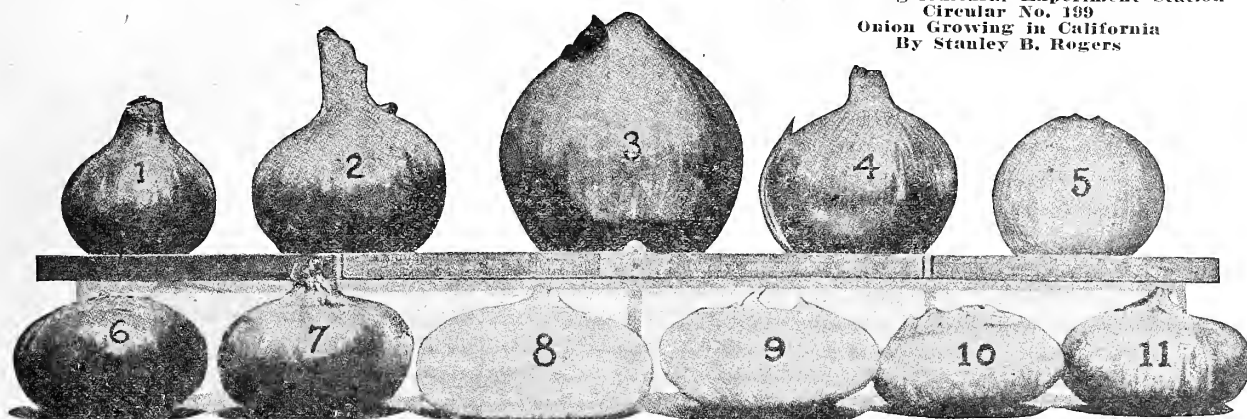
Southport White Globe This onion now easily leads all other varieties in popularity on the Los Angeles market, and is selling more readily and at higher prices. It is a good keeper, either in the field or in cold storage. It is a silvery white in color, globe shaped, and of delicious flavor. It is the popular onion with the shipper. (Pkt. 7½c) (oz. 75c) (¼ lb. \$2.00) (½ lb. \$3.50) (lb. \$7.00).



Crystal Wax Onion

A & M ONIONS—(Continued)

California Agricultural Experiment Station
Circular No. 199
Onion Growing in California
By Stanley B. Rogers



1. Australian Brown
2. Ohio Yellow Globe
3. Prizetaker

4. Yellow Globe Danver
5. Southport White Globe
6. Yellow Flat Danver

7. Red Weathersfield
8. New Queen
9. White Portugal

10. Crystal Wax
11. White Bermuda

Yellow Flat Danver Similar to the Yellow Globe in color and quality, but somewhat flattened in shape, and is earlier. It is a fine large onion with a very small stem. (Pkt. 7½¢) (oz. 40¢) (¼ lb. \$1.35) (½ lb. \$2.20) (lb. \$4.00) postpaid.

Ohio Yellow Globe This onion is the standard winter sort in many markets. The shape is almost globe form and the bulbs are quite large with thin necks. The skin is yellow, while the flesh is pure white, solid and of good quality. Its earliness makes it valuable for market. The crop is very uniform and ripens at one time. (Pkt. 7½¢) (oz. 50¢) (¼ lb. \$1.70) (½ lb. \$2.75) (lb. \$5.00) postpaid.

Extra Early Red Flat This is the early onion grown in the Sacramento Valley for the San Francisco market, where it is in great demand. (Pkt. 7½¢) (oz. 35¢) (¼ lb. \$1.70) (½ lb. \$1.75) (lb. \$3.50) postpaid.

Red Weathersfield Probably the most popular red onion, and the one grown more largely throughout the United States than any other. It is a large, medium flat onion of excellent mild flavor. (Pkt. 7½¢) (oz. 45¢) (¼ lb. \$1.50) (½ lb. \$2.50) (lb. \$4.50) postpaid.

Southport Red Globe This beautiful onion is coming into favor here. It keeps better than other red varieties. (Pkt. 7½¢) (oz. 60¢) (¼ lb. \$1.75) (½ lb. \$2.75) (lb. \$5.50) postpaid.

Extra Early White Queen This is by far the best early onion for this section. Seed is so very scarce that we can offer it only in small portions. (Pkt. 25¢) (oz. 75¢) (¼ lb. \$2.50) postpaid.

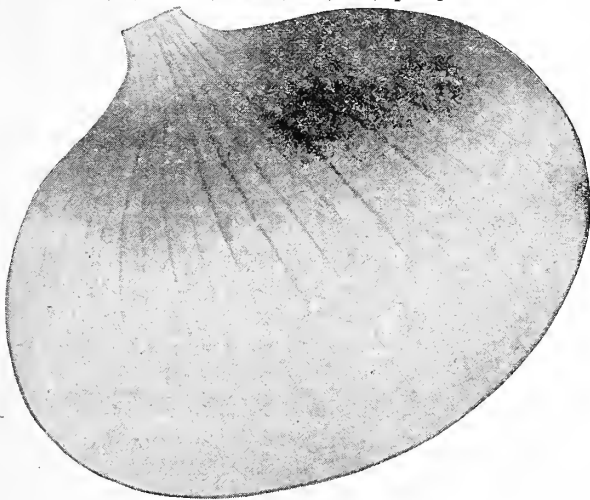
Four Large Spanish Onions

Giant Gibraltar Large, Brownish Yellow, somewhat flattened on under side; often weighing four lbs. Is a good keeper and is known to be adapted to climatic conditions of the southwest and Texas. (Pkt. 7½¢) (oz. 50¢) (¼ lb. \$1.50) (½ lb. \$2.75) (lb. \$5.00) postpaid.

Denia One of the large Spanish types with extraordinary mild flavor; nearly a globe shape, slightly flattened, and nearly pure white. It is popular in the south and we recommend it to gardeners having a large local trade, and who want the heaviest yield possible. (Pkt. 7½¢) (oz. 50¢) (¼ lb. \$1.50) (½ lb. \$2.75) (lb. \$5.00) postpaid.

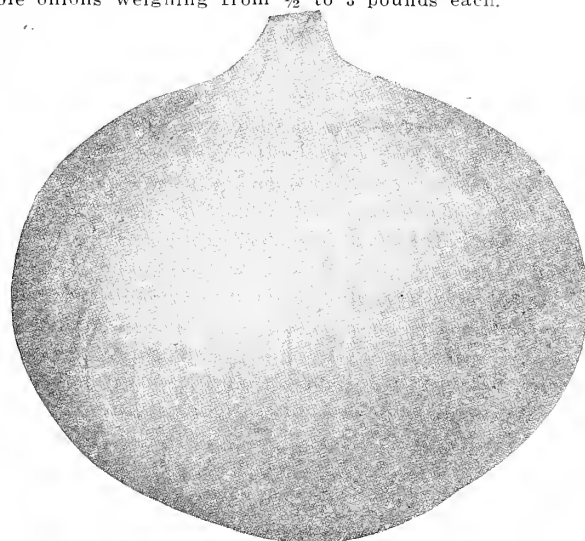
Prizetaker The handsomest, largest Yellow Globe Onion—A good keeper, of finest flavor, handsome shape and enormous size, many single onions having been raised to weigh five pounds or over from seed the first year. The Prizetaker grows always to a perfect globe shape with a bright straw-colored skin. (Pkt. 7½¢) (oz. 50¢) (¼ lb. \$1.50) (½ lb. \$2.75) (lb. \$5.00) postpaid.

J. H. Peck, Selma, Cal., writes: "I planted ¼ lb. of your Prizetaker onion seed last year on March 4th on just one-tenth of an acre on reclaimed tule land, never irrigated at all. I harvested 95 sacks of 100 pounds each of fine marketable onions weighing from ½ to 3 pounds each."



Denia

Australian Brown Quick to mature; a good keeper; solid and heavy; an excellent onion for shipping. The skin is a light brown. Its solidity gives it great weight and a sack weighs several pounds heavier than a sack of other varieties. The onions are thin-necked and ripen very early in all soils. As the plant makes a very quick growth it matures the bulbs before the hot, dry summer weather sets in, and this in connection with its exceptional keeping qualities makes it a most profitable variety. (Pkt. 7½¢) (oz. 30¢) (¼ lb. 90¢) (½ lb. \$1.35) (lb. \$2.50) postpaid.



Ailsa Craig

Ailsa Craig Large, Light Yellow, globe. Average weight of 600 onions from one row (not selected) 2½ lbs. Extra selected 3 lbs. 9 oz. Probably the largest and heaviest cropping onion. (Pkt. 7½¢) (oz. 50¢) (¼ lb. \$1.50) (½ lb. \$2.75) (lb. \$5.00) postpaid.

A & M ONIONS—(Continued)

A & M Onion Sets

Australian Brown, Yellow Danver (lb. 35c) and Silver-skin (lb. 40c) prepaid. Write for quantity prices.

The earliest onions are grown from sets planted in September. This brings them in the market in February and March, when prices are highest. About 250 lbs. of sets will plant one acre.

For the home garden no vegetable is so valuable as the onion, and for this purpose it is better to plant sets, because they are ready for the table six weeks after planting. Set them three inches apart in rows six inches apart. When ready for use, take up every other one as needed, allowing the balance to grow to mature size. One pound of sets will plant about fifty feet of row. (Lb. 40c postpaid) (10 lbs. \$2.00 f. o. b. here). For larger quantities write for prices, which range from \$15.00 to \$20.00 per 100 lbs.



Onion Sets

Bunching Onion

Many think any white onion will do for a bunching onion, but this is not true. Our growers for fancy trade have learned that we have the best strain of seed for this purpose, and our sales amount to thousands of lbs. each year. The picture shows a sample of what our seeds produce. They are just the right shape. (Pkt. 7½c) (oz. 55c) (¼ lb. \$1.75) (½ lb. \$2.75) (lb. \$5.50) postpaid.



Bunching Onions

Chives

This species of onion is extensively used for flavoring. A small spot in the garden planted to Chives will supply a family the year round. (Plants, 1 bunch, 10c) postpaid.

Chives are also easily grown from seed. Sow in beds and transplant as soon as they begin to multiply. (Pkt. 7½c) (¼ oz. 35c) (oz. \$1.00).



Common

Imperial

A & M Imperial Garlic

Cultural Instructions from a Professional Grower—"I am of the opinion that it would take 250 lbs. to plant an acre of Garlic. I make my rows two feet apart; make double rows, the garlic about four inches apart in the rows each way. I believe in good soil I can raise between four and five tons per acre. Weeds will never grow in garlic, and it needs plenty of water regularly. If you leave it suffer for either water or cultivation it matures before good size. Imperial Garlic planted October 2nd, matured April 7th. The Large White Garlic planted the same time matured in June. The Red Garlic is about half way between."

The Imperial Garlic

Originated in the Imperial Valley, and is peculiarly adapted to that kind of climate. Like the Bermuda Onion, it matures quickly and must be harvested before the extreme heat of summer. Read what the originator says of it: "In reply to your note regarding the superior points in this garlic:

"1st—It is 6 weeks to two months earlier than any I have ever tried; will mature in about five months from planting. Last season I planted October 2nd and shipped the first April 7th, well matured. I bought 100 lbs. of the Large White and planted the same time. I harvested it June 1st, and got about one-half as much per acre, of an inferior quality.

"2nd—It will produce about as much again, bearing as high as forty cloves in a bulb, eighteen being the most in any other variety I tried.

"3rd—It comes up readily and grows all winter and matures the first warm weather we have in the spring, while the other kinds will make but very little growth in cold weather. This garlic is the kind that will succeed in the hot valleys of Imperial, Coachella, Yuma or in Texas, where the Bermuda Onion thrives.

"4th—My garlic was all harvested and marketed before the advent of the thrip, which did much damage to the late varieties. September and October are the proper months for planting garlic, but the Imperial Garlic may be planted as late as February." (Lb. 40c postpaid).

Market—The demand for garlic is limited but insistent and the price has a wide range. Before 1914 the normal price ranged from six to twelve cents. The fall of that year and during 1915 the price advanced to twenty-five cents per lb. during the fall of 1917 the price dropped to no market at four cents. While the fall of 1918 it advanced to thirty cents.

With seed at this high price and scarce it would seem this would be a good year to plant Imperial Garlic.

FARM AND HOME DRYING OF FRUITS AND VEGETABLES

The bureau of plant industry, United States department of agriculture, has issued Farmers' Bulletin 984, "Farm and Home Drying of Fruits and Vegetables," by Joseph S. Caldwell. Imperative necessity demands nation wide conservation of those portions of our food crops which have heretofore been permitted to go to waste. A considerable portion of this wasted food material is made up of perishable fruits and vegetables produced in home gardens and fruit plats in excess of the immediate needs of the producers and in the absence of accessible markets for the surplus drying offers a simple, convenient and economical method for preserving food materials and permits the carrying over of the surplus into periods in which fresh fruits and vegetables are expensive or unobtainable.

The bulletin may be had without cost by writing Division of Publications, United States Department of Agriculture, Washington, D. C.

Plans from which to make a vegetable drier will be found in Extension Circular 23 of the University of Missouri College of Agriculture. This circular also contains directions for drying fruits and vegetables, and for storing and using the dried products. Send for this circular.

GROWERS OF BERMUDA ONIONS

We have a limited number of Prof. F. W. Mally's Bulletin on the subject of the Bermuda Onion.

It is thorough and complete in every detail of the culture of this onion,—preparation of the soil, seed beds, preparation of the field, planting, culture, irrigation, cultivation, fertilizing, harvesting and marketing.

Much of the cultural instructions in this book will apply to other than The Bermuda Onion.

If you wish this Bulletin, send five 2-cent stamps either to us or to the Commissioner of Agriculture, at Austin, Texas.

A & M Okra, or Gumbo



A & M Early Greenpod

A good and healthful vegetable for a summer crop.

Culture—Plant seed from April st until Aug. 15th. Plant six to ten inches apart in rows three feet apart. One ounce will plant one hundred feet of row.

We have for a long time endeavored to produce an okra that is earlier than the White Velvet, which has long been the popular market variety. We have succeeded by selection, in producing not only an earlier variety, but a much more tender and prolific okra, and have named it Aggeler & Musser's Early Greenpod.

It is just the thing for the truckers in the Coachella and Imperial Valleys, because it matures in April, fully a month ahead of other varieties; bears continuously until late in the season.

The pods are three to four inches long, deep green in color, and when young are absolutely stringless.

Every home garden should have this variety, as should the trucker. (Pkt. 7½c) (oz. 10c) (¼ lb. 30c) (½ lb. 45c) (lb. 85c) postpaid.

White Velvet

On account of its attractive white color, good flavor and tender pods when quite young, it has long been a favorite variety. (Pkt. 7½c) (oz. 10c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

A & M Early Greenpod 75c postpaid.

Mammoth Long Pod We have greatly improved the original strain and now its productiveness is simply wonderful, the pods shooting out from the bottom of the stalk within three inches of the ground, and the whole plant is covered with them to the height of a man's head, five to six feet. Pods are an intense green in color, of unusual length, nine or ten inches, tender, and of good flavor. (Pkt. 7½c) (oz. 10c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

A & M Parsley

Culture—Same as lettuce. (See page 7).

Champion Moss Curled Extra dark. Leaves giving a most beautiful decorative crimped and curled appearance. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Emerald or Dwarf Extra Curled Leaves tender, beautifully crimped; handsome, bright green color; very ornamental. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Extra Double Curled A good curled variety for garnishing. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Hamburg Turnip Rooted Fleshly vegetable roots for soups, etc. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.

Spanish Peanut

More Profitable Than the Georgia

This is the small Round Peanut used so largely in confectionery lines. One would suppose that on account of the small size it would be unprofitable to grow. But not so. Mr. Moore, residing on the Laguna Ranch, says it is more profitable to the grower than the Georgia because it is enormously prolific, and grows in a compact bunch on a small vine so that they may be stripped easily by pulling the entire stalk through the hand instead of picking one by one. This advantage together with the ready sale at a higher price makes the small Spanish Peanut more profitable than the Georgia. (Pkt. 10c) (½ lb. 25c) (lb. 50c) postpaid.

A & M Parsnip

(See Bunch Goods, Page 25)

Our New French Parsnip



Just right for the market gardener. The picture shows the actual size at time of marketing. It grows slightly larger, but it attains this size in ninety days, which is a full month earlier than other varieties. It is crisp and succulent. It will at once supersede all other varieties because of its all-round desirability. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.30) (lb. \$2.50) postpaid.

Devonshire This Parsnip was recommended to us by our European growers. Today it is the most popular Parsnip with our market gardeners. It is scarcely more than half as long as the Hollow Crown, but it is often three inches in diameter. Tender, and has an excellent flavor. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.30) (lb. \$2.50) postpaid.

Hollow Crown

Has long been a favorite in the family garden on account of its excellent table qualities. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.30) (lb. \$2.25) postpaid.

New French Parsnip Actual-Size

A & M Peanuts

Write for Special Circular

Georgia Improved Peanut

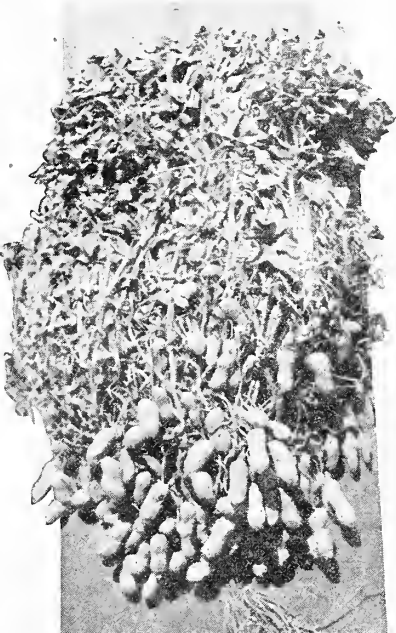
This variety is much superior to the ordinary Peanut, yielding fewer imperfect pods and combining earliness, productiveness and size; yields on ordinary land about 40 sacks to the acre. (Lb. 40c) pre-paid; (100 lbs. market price).

Tennessee Red

is an excellent variety, bearing three or four kernels to the pod. The kernels are of medium size and of good flavor. It is the favorite variety with the confectioner. (Lb. 40c) pre-paid; (100 lbs. \$12.00) f. o. b. here.

READ

The Peanut is too much neglected. Its various uses are of great economic value. Its value as a food is well-known, but few ranchers realize its value as a soil renovator, adding humus and nitrogen. As hog food there is nothing better. The straw is rich in food value and may be pastured green, cured as hay or ensilage, and the yield of hay is from four to five tons per acre. It grows on soil that may be too sandy for other crops. Therefore, if you have sandy soil, make it valuable, by planting peanuts.

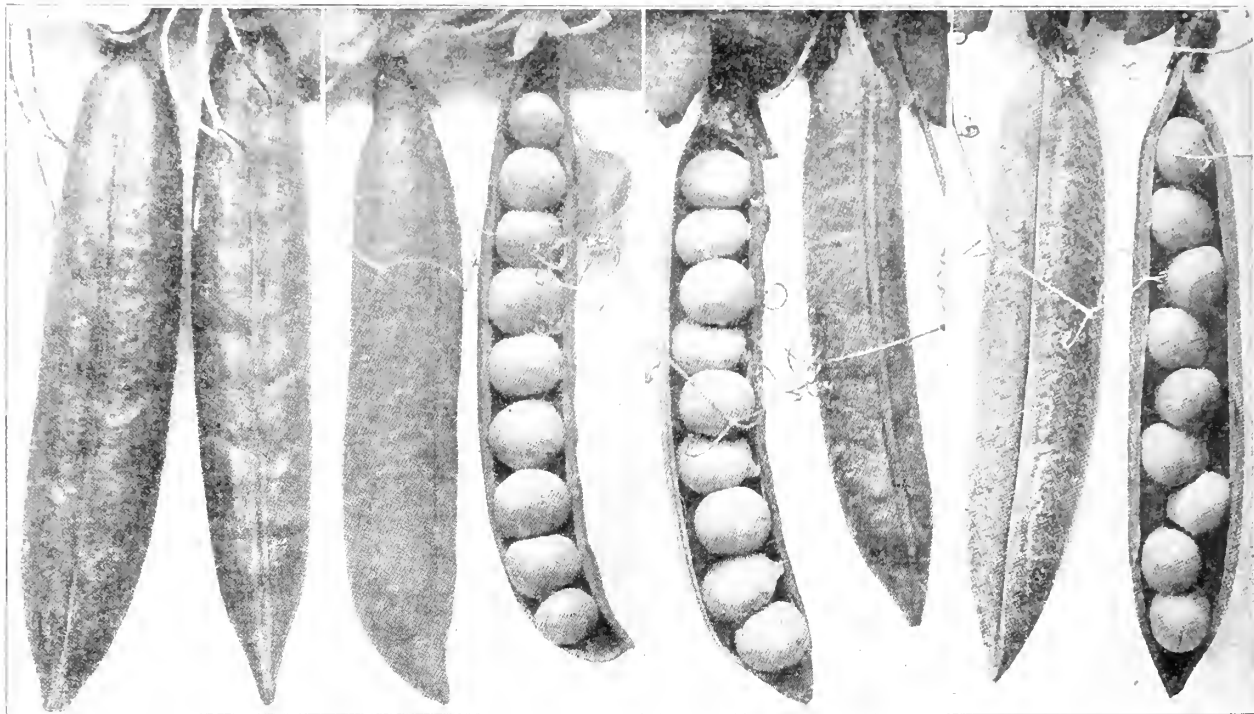


Georgia Improved Peanut

A & M Garden Peas

Write for quantity prices on all varieties

The 1914 crops of garden peas have been very short throughout the country. Many varieties have failed entirely so that while we have listed them we have none to offer until new is gathered next July.



Stratagem

Admiral

Perfection

Telephone

Home Garden For the home garden we recommend Nott's Excelsior, to be planted for very early peas, and if they can be trellised, the Tall Telephones for later crop. If they cannot be trellised, plant Admiral, or any other of the late varieties offered here. All are good.

Culture—Peas are very susceptible to soil and climate. Within the radius of a few miles from Los Angeles, and in one locality or another peas may be grown every month of the year.

In a thermal zone plant peas from September 1st to February 1st, and in lowlands from January 1st to September 1st. In summer months, from May to September, plant three inches deep in heavy soil and deeper in sandy soil. From December to April plant not more than one inch deep. The object of this is to have the seed deep enough to lie in moist earth, and shallow enough to get warmth from the sun. Never irrigate after planting peas until they come up. Irrigate before planting, but do not plant until the soil is tillable.

Peas will rot in soil that is too wet, especially during the winter months. They will stand a great deal of frost and cold weather until they bloom, but after they bloom a heavy frost will destroy the pods, and if cool enough, will kill the vines. Many planters sow one hundred pounds of seed per acre, but fifty pounds of seed per acre drilled in rows and well cultivated will produce larger pods and more peas per acre; besides, there will be less mildew. Put the rows north and south for winter planting to give them as much sun as possible.

At the first appearance of mildew, spray with the best sulphur obtainable, and do the spraying in the morning. If your soil is sandy it would be well to inoculate the seed with Nitrogen Bacteria.

Gradus The largest of all extra early varieties; medium tall, quality superior to all other varieties. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Dwarf Gray Sugar (Edible pods.) Of extraordinary yielding qualities, and unsurpassed as an edible-pod variety. (Pkt. 7½c) (½ lb. 30c) (lb. 50c) prepaid.

American Wonder The earliest of all wrinkled peas. Of dwarf habit, growing from 9 to 11 inches high, and producing a profusion of good-sized and well-filled pods of the finest flavor. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) postpaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Premium Gem A dwarf variety very prolific and sweet. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Nott's Excelsior Although a few days later than the average fully one-third larger, containing 6 to 8 large peas, so closely packed together that they become flattened. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Admiral This excellent variety was introduced locally two years ago with only a limited quantity to offer. Every grower who was fortunate enough to get some was extremely pleased at his good fortune. Has dark green foliage, profusely branching vines bearing abundantly of large, well-filled pods of delicious sweet peas that mature in twelve weeks from planting. The picture is of pods grown on our trial grounds, and shows the shape and actual size of the pod. It has had two years' trial, and every gardener that once grows it wants it again. That is the best recommendation. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) postpaid; (10 lbs. \$2.75) f. o. b. here.

Tall Telephone Vines vigorous, growing about 4 feet high, with large, coarse, light-colored leaves and producing an abundance of very large pods filled with immense peas which are tender, sweet and of excellent flavor. Throughout the South and by some growers in California it is preferred to all other varieties because of the hardness of the vines and its large, well-filled pods, making it one of the best varieties to grow during the winter months for shipping. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Stratagem A favorite in the San Francisco markets. The pods are of a dark green color and remain firm several days after picking. A very strong grower; very prolific, pods of good size and well filled. Vines stand upright about 2½ feet; an excellent variety. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here.

Yorkshire Hero A very popular market pea in this section. Abundant cropper and excellent in quality. Height 2½ feet. (Pkt. 7½c) (½ lb. 25c) (lb. 40c) prepaid; (10 lbs. \$2.75) f. o. b. here. Write for quantity price.

Carloads of Green Peas

MARKET—Every Christmas day every household within the United States may have on the table green peas grown in Southern California, right fresh from the vines.

If you are living in a district where peas may be safely grown during the winter months, we suggest that a number of neighbors agree to plant collectively enough acreage that shipments may be made in car lots. Not less than fifty acres should be planted to mature at one time. Thus a car load may be shipped at each picking.

A & M Peppers

Anaheim Chili Pepper

Green chilis in midsummer sell for about \$35.00 per ton, bringing \$300 per acre. Dried chilis bring a normal price of 20c per pound, bringing the grower about \$400 per acre.

Culture—For early green peppers, sow seed in hot beds in December and January. Transplant as soon as weather and soil in your locality will permit. For main crop sow seed in February, March and April, in hot bed. Pepper seed needs the heat of a hot bed to germinate it during these months. For fall and winter crop sow seed in out-door beds well prepared, during May and June. Winter crops can be grown in places that are entirely frostless.

The popularity of this Pepper continues to grow enormously. A few years ago known only to growers in Orange County, where it originated, it is now a staple article of commerce. The seed we have was procured from selected peppers, and not one pod was less than seven inches long. We grow the peppers, and have the seed taken out on our own grounds, under our supervision. It is 100 per cent pure. It is a safe crop to plant; it is not perishable. The price runs about twenty cents per pound dried.

The market for green chilis, too, is enormous, because of the large demand of the canneries who used the product of 1000 acres last season, and this industry is only in its infancy. The Anaheim Chili is desired above all others by the canner because of its fleshiness and slight pungency. Canned Chili was unheard of until we introduced the thick-meated Anaheim Chili. (Pkt. 7½c) (oz. 60c) (¼ lb. \$1.75) (½ lb. \$2.75) (lb. \$5.00).

There was such an enormous over-production in 1914 that the sale of chili was not a matter of price, but simply no demand equal to the supply. This has resulted in great good to the industry, because growers and dealers alike sought new markets and carloads of dried chili were shipped to cities that never before used them, with the result that the supply has not since been equal to the demand.

The average production per acre of green chilis is 10 tons per acre, valued at \$25.00 per ton, or one ton of dried chili now selling at about 20 cents per pound. This is a nice side issue for the man with a small acreage if he need not hire labor.

The supply of Anaheim and Mexican Chili has not kept up with the market for three years, and there is no danger of over-production in 1919. The market is bare and the demand has doubled within two years. We recommend a big planting of Chili, both Anaheim and Mexican.



Anaheim Chili
Actual Size
Big Money Maker

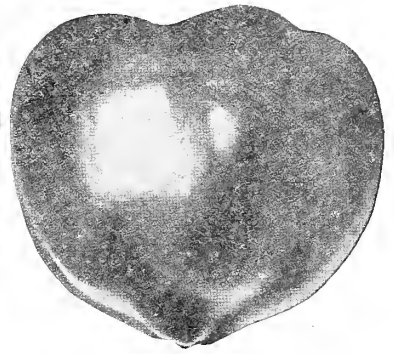
The growing of peppers in Southern California ranks in importance with cabbage, cauliflower, casabas and celery. The dried chili is being shipped East in car lots. The green chili, Pimiento and Chinese Giant are grown all the year around for the produce markets throughout the United States, and hundreds of acres of Pimiento and Chili are grown under contract with large canneries who ship the canned article to all parts of the world. The canned chili was unknown here until we introduced the Anaheim Chili and Pimiento.

PIMIENTO

MARKET—The demand for the canned Pimiento has grown to enormous proportions. It is very profitable to grow for the canneries because the Pimiento is very prolific. When you contemplate planting the Pimiento, figure on not less than five acres.



The Pimiento as we imported it in 1906.



The Pimiento as we improved it.

It is now a Big Money Maker

OUR SEED IS PURE. Owing to the large acreage planted to Chili, the Pimiento growers who planted seed of their own growing found their peppers badly hybridized with chili, resulting in a product that was ill-shaped and pungent, therefore could not be sold on the market nor to the canner. Our seed is pure and true to type, as one large grower testified by ordering his seed from us, discarding his own. He said: "I shall hereafter depend upon you for my seed, because it is the purest I have ever planted."

This pepper was introduced by us in 1911. It has already become one of California's many staples, far out-ranking the Anaheim Chili as a canned product. One cannery used the entire crop from 600 acres of Pimientos. This is because of its lack of pungency and its firm, thick fleshiness, which permits of its being scalded and peeled. It should be grown largely in the family garden, because it is delicious with salads or stuffed, and a healthy food to eat when ripe as you would eat an apple.

Every home garden should have a row of this Pimiento. For salad, parboil it to remove the skin. Stuffed and baked it is far superior to all other peppers. (Pkt. 7½c) (oz. 60c) (¼ lb. \$2.00) (½ lb. \$3.25) (lb. \$6.00) postpaid.

Mexican Chili For the first time in the history of growing Chilis in California the Mexican Chili has out-classed the Anaheim Chili by several hundreds of acres. We were taught that people living in hot climates were fond of hot peppers, but it seems that it was only a local habit and that climate had nothing to do with it. The North and East have acquired the habit and our shippers are having difficulty getting growers to keep pace with the market.

If you have rich sandy loam with irrigation available, there is big money in growing Mexican Chilis at present prices.

If you contemplate growing Chilis consult us about it.

The Mexican Chili is in a class by itself, on account of its extreme pungency. It is not canned, but is used almost exclusively for grinding and sold as cayenne, the trade of which is surprising. (Pkt. 7½c) (oz. 45c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00) postpaid.

Our seed is pure and taken from selected peppers grown far from other varieties.



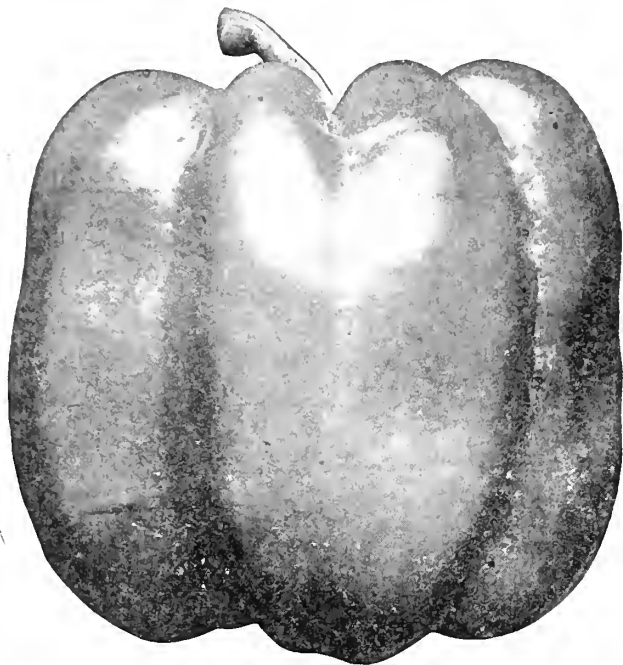
Mexican Chili
Big Money Maker

It has been proved possible again and again in this vicinity to keep a family of five provided with fresh vegetables the year around on an ordinary city lot. It only requires real interest and reasonable attention.

An amateur may at once become an expert with the aid of this catalog and A. & M. Seeds.

PEPPERS—(Continued)

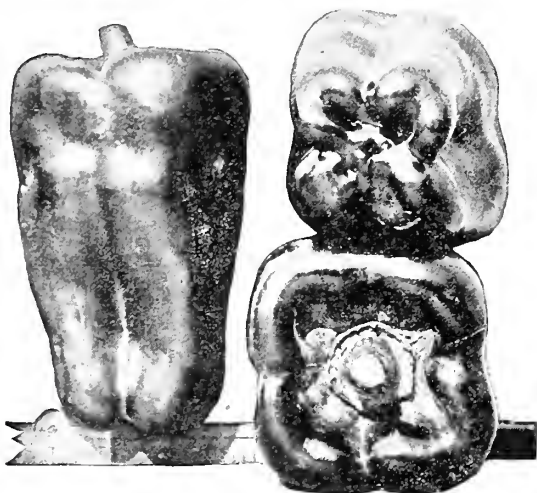
Chinese Giant A very large pepper of the Bull Nose type, often growing to five inches in diameter. This is the variety grown so extensively in frostless sections for the winter trade, when the grower gets as much as 20c per pound for the green pepper. One grower claims that his returns from five acres was \$4500. (Pkt. 15c) (oz. \$1.00) (¼ lb. \$3.00) (½ lb. \$5.00) (lb. \$9.00) postpaid.



Chinese Giant Pepper

MARKET—For the market gardener the Chinese Giant is the big money-maker. There are instances,—in the foot-hill sections where they can be grown throughout the winter,—where the grower sold \$900.00 worth from one acre, but as a mid-summer crop it is profitable because of its enormous production.

A & M Perfect Ruby King Ordinarily they grow from 4 to 6 inches long by 3 to 4 inches thick. Plant is of sturdy, bushy habit, and each one produces handsome fruit. This pepper is popular because of its solid, thick meat and mild flavor. (Pkt. 7½c) (oz. 80c) (¼ lb. \$2.65) (½ lb. \$4.25) (lb. \$8.00) postpaid.



A & M Perfect Ruby King

Bell or Bull Nose Do not confuse this with the Chinese. It is similar in shape but scarcely more than half as large. It is much more prolific and a very desirable variety for the home garden. (Pkt. 7½c) (oz. 65c) (¼ lb. \$2.00) (½ lb. \$3.25) (lb. \$6.00) postpaid.



Floral Gem

Market Gardeners Read This

Floral Gem This beautiful yellow pepper became popular two years ago. It is ¾ inches in diameter, 1½ inches long, delightfully pungent with a flavor quite distinct from other peppers, and commands an independent price. The supply has not yet caught up with the ever-increasing demand. (Pkt. 7½c) (oz. 50c).

Small Chili This small pepper is ½ inch in diameter and two to three inches long. Is very pungent and marketed when quite green, although it is also sold when it has become red. It is an old time favorite and finds a market with canners and at stores catering to the foreign trade. (Pkt. 7½c) (oz. 50c).

Cherry A very pungent pepper round as a cherry about one inch in diameter, marketed when green. Used largely in pickling and by the foreign trade. There is a profit to the person who will specialize on this and other small pungent peppers. (Pkt. 7½c) (oz. 50c).

Chili Piquin A very small but exceedingly pungent pepper, round as a cherry less than ½ inch in diameter. Marketed when thoroughly ripe and dried. Served on the table whole and used as wanted for seasoning. It is better than Cayenne. Also used extensively in pickling and spicing. (Pkt. 7½c) (oz. 50c).

Cayenne A long, slim pepper, rather pointed, and when ripe a bright red color. Extremely pungent. (Pkt. 7½c) (oz. 50c) postpaid.

Tobasco The plants develop into large bushes, bearing profusely the little bright peppers in sprays. A mature pepper measures about one inch in length. These peppers are extremely pungent. (Pkt. 7½c) (oz. 50c) postpaid.

Because this catalog is intended to be of the greatest benefit to the grower.

Because our seeds are selected to give the best results when grown according to instructions in the catalog.

THE SPACE in this catalog is devoted to hints and information useful to the grower; not "Literary rainbows" about seeds of doubtful merit intended for the "Rainbow Chaser." Our seeds are just what is claimed for them.

If this catalog pleases you, tell your neighbor to send for one.

Potatoes

READ THIS ARTICLE Written for this Catalog by Prof. W. V. Shear, State Horticultural Inspector.

Essential Factors in Successful Potato Growing

The best results cannot be obtained without the **best seed**. Over thirty per cent increase has been obtained through the use of treated seed when grown by the side of what was thought to be extra good seed stock but not treated.

Flow deeply, 9 to 12 inches.
Treat seed stock before cutting. The very best seed may have traces of one or more of the many diseases to which potatoes are subject. It is, therefore, advisable to soak seed potatoes in a solution which will kill whatever disease may be lurking on the outside of the tubers. Make this solution by dissolving **four ounces of corrosive sublimate** in about two quarts of hot water (be sure it is thoroughly dissolved) in a glass jar and then add to thirty gallons of cold water in wooden vessels. A barrel or wooden tank makes a good receptacle for this purpose. Place the sacks of potatoes in this solution and leave one and one-half hours, then drain and, if the potatoes are not to be cut immediately spread out to dry. Use the same solution for only four or five lots as the strength becomes weaker the more it is used. This solution is poisonous and should be handled with care and kept where animals may not drink it. Treated potatoes should also be kept away from stock.

Cut potatoes to about two eyes and about two ounce pieces.

Plant four to five inches deep, 14 inches between pieces, in rows 40 inches apart.

If potatoes follow alfalfa or Melilotus good yields can usually be obtained without the use of commercial fertilizer; but on most soils the use of barnyard manure thoroughly worked into the soil, or commercial fertilizer will be found profitable.

Keep soil moist at all times. Do not judge moisture by appearance of the potato plants as when the plants become a very dark green or begin to turn yellow it is then too late to apply water for best results; and potatoes are likely to become rough and knobby.

Turn earth up toward plants a little higher at each cultivation; until at last cultivation the ridges are six to ten inches high and broad at top so that tubers will be kept cool and free from tuber moth infection.

MORE AND BETTER POTATOES

We realize that Southern California is not producing potatoes in quantity nor quality equal to other recognized potato growing sections nor can the reason be assigned to any soil and climatic conditions prevailing here. But it has been clearly proven by demonstration that clean seed will produce **more and better Potatoes**. Therefore the above slogan has been sent forth. On account of the almost universal presence in the soil of **Scab** and **Rhizoctonia** it is necessary to treat all seed to corrosive sublimate in order to destroy any germs of disease that may exist.

Pursuant to our policy of doing everything possible to give our customers the best and cleanest seed possible we have installed a large vat in which all potato seed will be so treated there by insuring more and better Potatoes for Southern California.

Our prices will be a little higher than elsewhere but clean seed will produce cleaner and 25% more potatoes per acre. As evidence that the treatment produces results, we quote Mr. Crew, of Riverside County, who says:

"It was quite easy to distinguish in the field where the treated seed grew, both in the vines while growing, and in the yield and quality of the potatoes. Of course, I manured heavily, but I harvested above an average of 200 sacks per acre on all of my 80 acres, and some spots yielded nearly 300 sacks per acre, and all clean, certified seed, which must be attributed to treating the seed, and proper cultivation."

POTATO INSPECTION—All potatoes intended for seed purposes must be inspected by the County Horticultural authorities before they may be received and again before they may be shipped out. This is a great protection to the grower.

Early White Rose

The greatest of all our Big Money-Makers.
This is the potato which stands out conspicuously among all other varieties as an all-round, uniformly good yielder in any kind of soil, any season,—early, mid-summer or late. Always the best for main crops and for the table.

NOT RUNNING OUT

Now and then some alarmist will say the White Rose is running out. No such thing. It is advisable to get seed that has been grown on sandy or sandy loam soil and if planted on rich sandy loam will produce potatoes like Mr. J. F. Robison grew at Anaheim. One potato weighed two pounds, six potatoes weighed nine pounds. Five potatoes laid tandem measured thirty-six inches.

This two-pound potato was handed to Jordan & Casey of Redondo who cut it into 29 eyes and raised in 29 hills, 164 potatoes weighing 75 lbs. And this on sandy soil without irrigation, and planted after the rainy season.

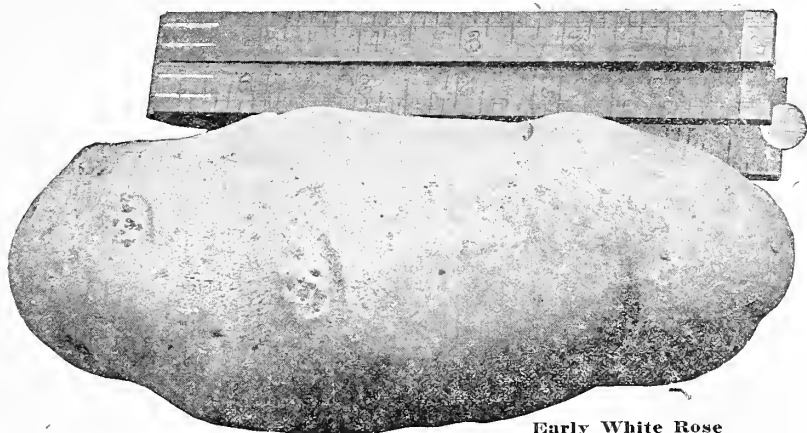
Oregon Grown White Rose

We received about December 1st, a carload of Oregon-grown White Rose Potatoes. This was from the second crop grown from the seed we sent there during the Spring of 1917. They are free from disease and as good in every way as the seed we received from there last season.

Caution—They have a potato in Oregon which goes by the name of Oregon White Rose. A potato expert says it is the British Queen, a good potato but a late variety, it is almost a round potato and is easily distinguished from the typical White Rose shown in the picture. Therefore, it will be your own fault if you allow yourself to be deceived after reading this caution.

Bliss's Triumph This is a round red potato, is not a big yielder, but is the earliest potato we know of. It gets entirely ripe in nine weeks. The potatoes produced are always good size and are of exceptionally good quality. They have proven the most satisfactory for the desert country, where moisture is scarce and a quick crop is necessary. They make small tops and the potatoes form very close together, hence they can be planted a foot apart in the rows and have room enough.

American Wonder This is a very popular early variety in the Southwest. It is a long white potato resembling the Burbank. It gets entirely ripe in three months. On good land they make an enormous yield of fine potatoes of excellent quality. They set from fifteen to twenty-five potatoes to the hill, and it is not advisable to plant them on very poor land, as you will have too many small potatoes.



Early White Rose
True Type

Early Red Rose This is a long red potato about ten days later than the American Wonder. It is very desirable for selling in lug boxes on the early market and is better for poor land than American Wonder.

Burbank This is the best late variety, fully a month later than the White Rose. It sets heavily and yields a big crop on good land. We do not recommend them on poor land, as they make too many small potatoes.

PREVENT POTATO MOTH

J. R. Moeller of Los Angeles, writes: "I grow each year enough potatoes for my own use. I keep them free from moths between seasons by sprinkling them liberally with moth balls, then cover with newspapers and sacks over the paper."

We would advise trying this and we would be pleased if you will report.

Planted according to the phase of the moon, Arthur Wiedum writes: "My potatoes planted last fall at last quarter of the moon tripled in yield those planted at new moon."

A & M Sweet Potatoes

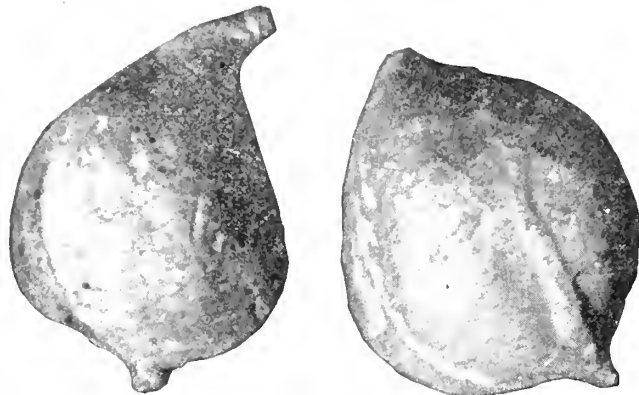
The handling of Sweet Potatoes for seed has been unsatisfactory to our customers as well as to ourselves on account of the perishable nature of sweet potatoes. However, if you wish us to secure sweet potatoes for seed purposes we will do so and send them to you at your risk.

Check or cash must accompany order.

We have no seed of any Yams or Red Jersey, only Plants, for sale only at the store.

Sweet Potato Plants

We will have in large quantities, plants of the Yellow Jersey, Red Jersey, Large White, Porto Rica Yam, Southern Yam and Nancy Hall.



Georgia Yam

Believing the growing of Yams should be encouraged we offer to send by mail or express plants of the above varieties at following prices for all varieties, (50 plants 75c) (100 plants \$1.00) postpaid; (1000 plants \$5.00 f. o. b. here).

A word about the Porto Rico Yams:—Our grower in Georgia says the Porto Rico Yams are much superior to Sweet Potatoes. The Yam on the Atlantic market sells for \$2.00 per box, while Sweet Potatoes go begging at \$1.25 per box.

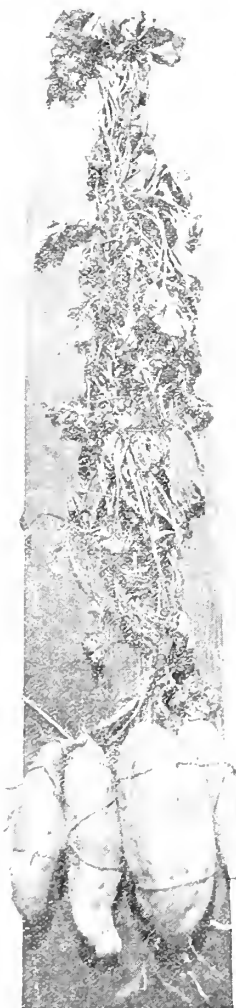
Nancy Hall This sweet potato or yam has become very popular in the south and east, almost to the exclusion of the common varieties of sweet potatoes. The vine shown in this picture was grown by Mr. Charles Richardson on land near the San Gabriel Wash. Soil so poor that he did not expect much of a crop; but to his great surprise it turned out a record breaking crop of few to the hill but large average sized potatoes. The hill shown in the picture is not exceptional. Notice the vine is only three feet in length. It is a type of Yam deliciously sweet.

It is also a good keeper and shipper.

READ

During the cold weather and railroad blockade of last winter, Chicago became sold out of Jerseys, and a few commission men put some Nancy Halls on the Chicago market. They were passed on to the housewives, who soon returned for more of the "best Potatoes I ever ate." To use the expression of a commission man, Chicago went wild over the Nancy Hall Sweet Potato.

As a result of this sudden popularity, a few Illinois growers planted more Nancy Hall Potatoes this year. The indications are that the planting of this variety will be greatly increased next season. The Nancy Hall is a large Potato; it is a vigorous grower; it makes a relatively short vine; it is not so subject to disease as the Jersey or Nansmond; and it bears heavier.



Nancy Hall

A & M Pumpkins

For stock only, plant Mammoth Tours, California Mammoth, Estampes, Cushaw, Kentucky Field or Cheese, Sandwich Island, Pot Iron and Connecticut Field.

For the canneries, plant Estampes, Kentucky Field or Cheese, also Boston Marrow and Hubbard Squash.

For the home, plant Boston Pie, Seminole and Hubbard Squash.

Culture—Pumpkins delight in red, sandy soil that is perpetually moist,—the soil that retains moisture by the dry farming method, because pumpkins do not want too much water, and to flood them would destroy them, so when irrigating make the furrows nearly as far from the hill as the tip of the vine, and when the vines intersect, run the water through the middle of the row. Plant the seeds every 8 or 10 feet, allowing only one plant to remain.

See Page 37—Deep Planting.



Estampes

Estampes We have the purest stock seed from which to grow this pumpkin. It is the heaviest pumpkin for its size that we know of; 100 pounds is not an unusual size for them to attain. It is the canner's favorite because of its thick, deep red flesh and the fine sweet flavor. It is without exception the best for dairy stock, and only the scarcity of the seed has prevented it from becoming more widely known. (Pkt. 7½c) (¼ lb. 50c) (½ lb. 80c) (1b. \$1.50) postpaid.

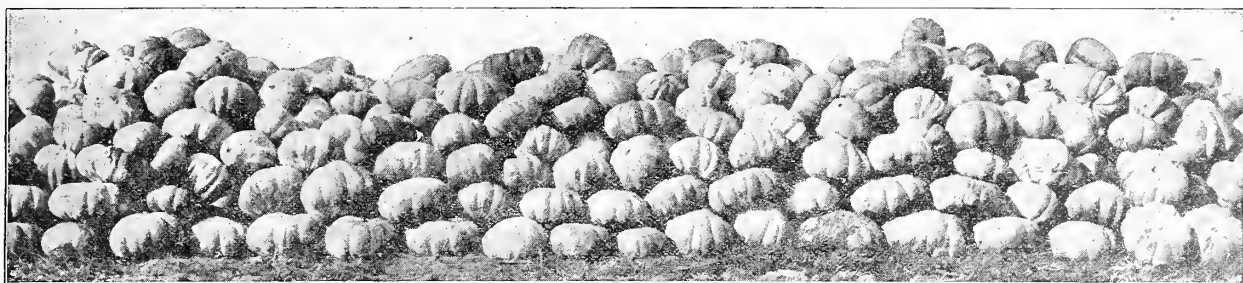
The Estampes Pumpkin, weighing 131 lbs., was grown on the ranch of Mr. Hathaway. His boys are active intelligent farmers and dairymen, and give us the information that when they feed other pumpkins the cows just eat them because they have to, and the milk contains only 3% butter-fat, but when they feed the Estampes, the cows are just crazy to get at them, and the milk contains 5% butter-fat. "Just to try it out, we again fed other pumpkins and the butter-fat fell to 3%."



Sugar, or Boston Pie

Sugar or Boston Pie A small handsome variety, and very popular. The skin is a deep orange yellow; flesh fine grained and sweet in taste. Famous in Boston as a pie pumpkin. It sells better on our local market than any other variety, except the Jack o' Lantern at Hallowe'en time. (Pkt. 7½c) (¼ lb. 35c) (½ lb. 55c) (1b. \$1.00) postpaid.

PUMPKINS—(Continued)

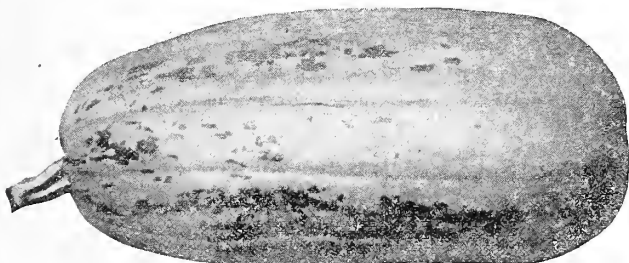


Large Cheese or Kentucky Field

Kentucky Field or Large Cheese

This variety is locally called Sweet Pumpkin, and is grown more than any other of its kind for stock, because it is a good keeper, notwithstanding it has a soft shell. It is fleshy and very sweet; also very good for pie, and is largely used for canning. On one large ranch in the San Fernando Valley there was planted a large acreage to nearly all the popular varieties; this one was unaffected by the hot sun, and remained in perfect condition while other varieties were sun-burned and decayed quickly. (Pkt. 5c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

Sandwich Island The most popular pumpkin in Ventura County. It is as hardy as a citron. A good one to plant where water is scarce. (Pkt. 7½c) (¼ lb. 35c) (½ lb. 55c) (lb. \$1.00) postpaid.

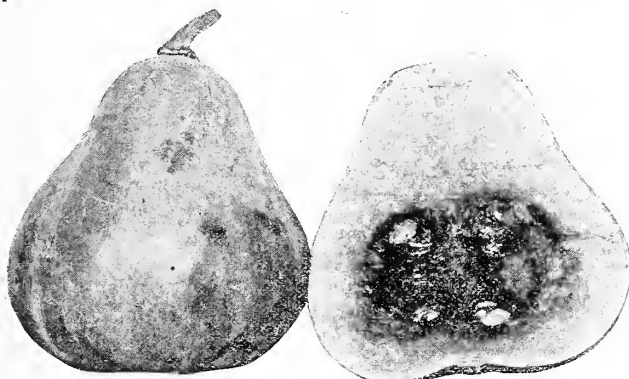


Mammoth Tours

Mammoth Tours Is one of our best stock pumpkins, and a most prolific yielder on good soil. It produces a pumpkin at every other joint that will average fifty pounds, more or less, according to the richness of the soil. It is a very popular pumpkin where it is better known. Mr. Short, of the San Fernando Valley, says: "There is simply nothing like it for bearing." Mr. Richardson, of the San Gabriel Valley, says about the same. (Pkt. 7½c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

Cushaw or Crookneck This excellent pumpkin ought to be planted more largely. It is the heaviest pumpkin for its size because of the small seed cavity. It is excellent for pies, and yields enormously. (Pkt. 7½c) (¼ lb. 35c) (½ lb. 55c) (lb. \$1.00) Postpaid.

Japanese Pie Pumpkin (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (lb. \$1.00) postpaid.



Seminole

California Mammoth This is the large pumpkin so well known locally. As many as 20 tons have been taken from one acre. It not infrequently attains a weight of 200 pounds. (Pkt. 7½c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

Seminole This delicious pumpkin has been growing in Florida for hundreds of years. It was grown by the Seminole Indians when the white man discovered that country. Some seed was sent us by A. E. Conway of Florida. At our trial grounds this pumpkin proved thoroughly adapted to this climate, growing vines to a length of twenty-five feet, with dense dark green foliage that completely covered the pumpkins, so that none were exposed to the sun. They are uniform in shape and color, just like the picture, and weigh from three to five pounds. They are better for pie than any pumpkin you ever grew. The thin rind is almost as hard as a cocoanut. It will keep a year. It is just the thing to plant along a wire fence around a private garden, or for the gardener to grow for the market, or for the rancher to grow for the shipper, and it is just what the peddler will want because it is just the size for the housewife to make two or three pies. It just fits anywhere. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c).



Connecticut Field (Jack-o'-Lantern)

Connecticut Field (The Jack-o'-Lantern)—This is the pumpkin planted largely for the Halloween and Thanksgiving trade, at which time they bring \$20.00 per ton, and two cents per pound at retail stores. Twenty tons to the acre is no unusual yield. If the land has been manured liberally a full crop can be grown among corn. It is a most excellent keeper, and will be sure wealth to all who grow and feed it liberally. (Pkt. 7½c) (¼ lb. 30c) (½ lb. 45c) (lb. 85c) postpaid.

Iron Clad This is the leading stock pumpkin in Australia. It has a silver gray color, thick meated heavy pumpkin with an average weight above twenty-five pounds but frequently weighing 75 lbs. Our seed was imported from Australia. It is pure. Mr. Soderberg of Van Nuys, who grew our seed, says: "I never saw a pumpkin grow such a vine. It ought to be planted twenty feet apart, even then the foliage would shade every pumpkin."

(Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (lb. \$1.50).

MONEY IN GROWING SQUASH AND PUMPKINS.—The canners consume enormous quantities. They use principally the Estampes and Large Cheese pumpkins, paying about \$6.00 per ton. Next to the canners are the bakers, who use Hubbard Squash and Small Sugar, paying about \$20.00 to \$30.00 per ton.

PLANT PUMPKINS AND CITRON FOR THE DAIRYMEN

If you have an idle space of rich sandy loam plant pumpkins any time from May 1st to August 15th.

If you have any soil too sandy to grow the usual crops, plant the large green striped citron, you will be sure of a big crop.

A & M Radish

Culture—Seed may be sown the year round in California. Radishes thrive best in light, sandy loam, made rich with manure. Sow in drills, 10 inches apart. An ounce of seed will sow a hundred feet of row, 10 pounds to the acre.

Early Scarlet Turnip

One of the earliest and best sorts for forcing; its color is very handsome; flavor very mild, crisp and juicy; stands a great amount of heat without becoming pithy. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (lb. \$1.75) postpaid.

French Breakfast

A splendid variety, medium-sized, olive-shaped, very crisp and tender; of a beautiful scarlet color. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

Epicure Radish

Ready for the table within three weeks; always crisp, a delightful relish. The small round red and white radishes make a pretty showing. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Chartiers A distinct, exceedingly handsome and attractive sort; color of top scarlet rose, shading into pure waxy white at the tip. Attains a large size before it becomes unfit for the table. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

Early Long Scarlet

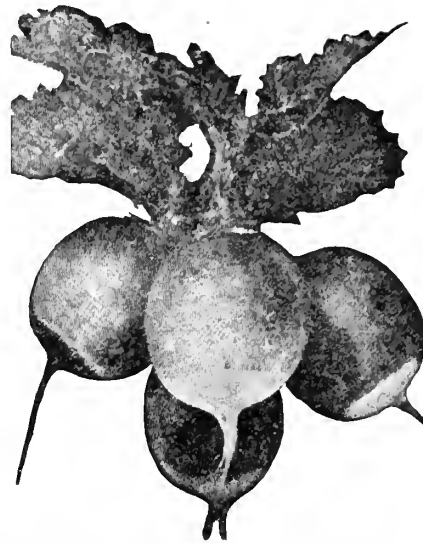
Very brittle and crisp; color a bright scarlet; small top. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

Long Black Spanish

A delicious, crisp winter radish. It sells well at the market. (Pkt. 7½c) (oz. 10c) (¼ lb. 25c) (½ lb. 40c) (lb. 75c) postpaid.

Large White Chinese

This is a winter radish of deliciously sweet flavor; can be eaten as a turnip as it is without stringency. The Chinese use this variety exclusively. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.



Scarlet Turnip White Tip Radish

White Tipped Scarlet Turnip

An early variety of medium size and excellent flavor, and of a very handsome appearance. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

Long White Icicle

For the home garden we consider this a most excellent table variety. Its extreme earliness, beautiful pure white appearance, excellent flavor and crispness should make it a favorite everywhere. (Pkt. 5c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Crimson Giant Turnip

A variety extraordinary in that, while growing to an unusually large size, it is always tender, crisp and of mild flavor. It remains in perfect condition a remarkably long time, and, unlike other forcing varieties, does not become pithy even when twice their size in diameter; root turnip shaped; color a beautiful crimson carmine; flesh firm, crisp and tender. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

All Season Radish A new one from Japan called "Tokishiraza," meaning all-the-year. It is a very large, long, snow-white radish; deeply rooted, does not extend above the soil, hence it always is tender and crisp and has a delicious flavor. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Japanese Summer Radish

This radish was introduced here by the Japanese several years ago. Its beautiful white color and mammoth size attracts great attention. It is very tender and the flavor is exceedingly mild. It attains perfection in California, growing twenty-six inches in length and three inches in diameter. It is a profitable radish to grow, as it sells readily and is relished by all. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

California Mammoth

Pure white; the flesh is tender, sweet and crisp, keeps well. Plant from September 1st to March. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

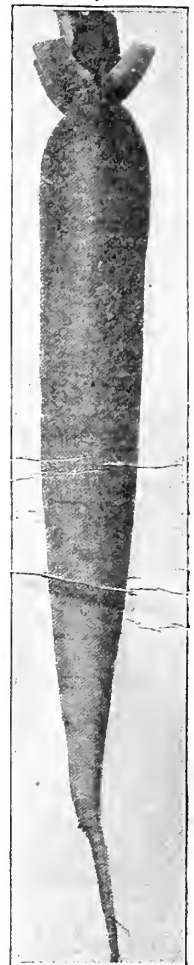
Round Black Spanish

Skin black, flesh white, of firm texture. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

China Rose A delicious radish, crisp, with little tendency to become pithy. A beautiful coloring from light red at the top to almost pure white at the tip. It is a good seller and is in great demand by the vegetable peddlers. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.



All Season



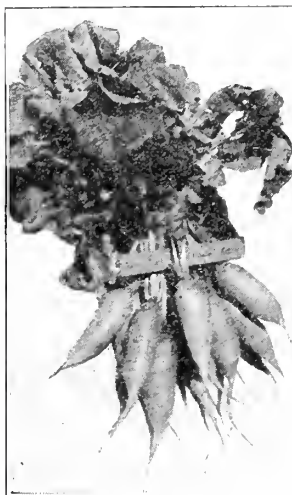
Chartier



Long White Icicle

Stump Rooted Half Long Scarlet

This variety should be more popular because it is just the right size for table use, not too large, never pithy, but always crisp and sweet. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.



China Rose

Horseradish

GROW MORE HORSERADISH

Big Money Maker

The local supply is far below the demand. This condition should not exist, because it is a profitable crop. One grower realized \$1100.00 off of two acres. When asked why he discontinued growing it, he replied: "I have not the right soil. It requires rich, sandy loam, frequent irrigation, but it must be well drained so that the soil does not remain muddy or sour. Then, too, there is so much disease or blight prevalent that one must get a clean start and keep clean by changing places as soon as the soil is infected."



One dozen will supply enough for the use of one family. It requires about 10,000 roots to plant an acre.

Prepare the ground as you would for potatoes; stick each root upright into the bottom of the furrow 12 inches apart, and 3 inches deep, or drop the roots and cover as potatoes.

The Bohemian Variety is decidedly a more rapid grower than the common. We buy our roots from the far East to avoid the disease so prevalent here. (12 roots 25c) (100 roots \$1.00 postpaid; 1000 roots \$8.00) f. o. b. here.
A. Curtis writes: "I found the horseradish disease comes from planting old crowns. In my field all crowns that were planted showed disease but those planted from roots were free."

A & M Roselle

Culture — Sow seed early in April in the field, four feet apart, in rows six feet apart. Cultivate as Okra. There is an early and a late Roselle. Be sure to get the early variety because the frost is almost sure to destroy the late variety before it matures. We offer only the early variety.

It is an annual plant that has been sufficiently tested to indicate its great value and to warrant more extended cultivation. The fruit is used for making jelly and jam. The jelly is superior to guava or currant, and is labeled as "Queensland Jelly," is shipped from Australia to all parts of Europe. It is easily grown from seed if planted after the ground is warm; grows rapidly, resists drouth and is very ornamental. Every home garden should have a row of this ornamental



Roselle Pods
From Which Jelly is Made

and useful plant. (Pkt. 7½c) (oz. 75c) (¼ lb. \$2.50) (½ lb. \$4.00) (lb. \$7.50) postpaid.

NOTE—Our local growers are not up with other localities in advertising and educating the public to the uses of roselle. The local demand has never yet been fully supplied, and only a few people ever heard of it. Someone ought to get busy.

We have been advised by a lady from Texas, also one from Cuba, to remove the seed pod, and the jelly is thus greatly improved. The calyx is an excellent substitute for cranberry sauce or pie.

Having received numerous inquiries how to use Roselle, we have decided to insert the answer here. Pick the pods that grow at the axil of each leaf. Boil them until soft and strain through a cloth. Add ½ pint of sugar and the juice of ¼ of a lemon to each pint of juice, and boil again until it jells.

The pods are ready for use in September. We are advised that excellent jelly may be made from the leaves. Therefore it will not be necessary to wait for the pods to mature.

Paul Nye writes from Turlock, December 10, 1917: "I planted two acres of Roselle. I have made 800 pounds of jelly and have juice to make 2500 pounds more. I want your early variety, it gives me a longer season for harvesting."

A & M Rhubarb

Culture—Sow the seed any time from February 1st until July 1st, in drills two feet apart, in order that you may cultivate with a horse cultivator. Within five months after sowing the seed, the Wagner's Giant variety will be large enough to market, even though the roots are not larger than your thumb. Transplant at any time when the roots are large enough. Rhubarb requires a rich sandy loam, well drained. Never flood the crown nor bury it with soil. Therefore plant it on ridges or on the sides of an irrigating ditch. In our hot climate partial shading is beneficial. If you can do so, plant it in an orchard, setting the roots three feet apart, but if in a sunny place, set the roots 18 inches apart, that the leaves of one plant will shade the crown of another.

The largest rhubarb ever brought to this market was grown by the side of an irrigating ditch on the peat lands of the West Adams Street Gardens.

Wagner's Giant Is undoubtedly the most profitable variety we have yet offered. It is displayed at the market places in apple boxes, and the boxes are barely long enough to accommodate the large, thick stems that will average one-half pound each, often weighing more than a pound. It is remarkably early, bearing large stems within five months from planting the seed, and grows nearly the entire year. The stems are so tender that they do not need peeling. It is not as red as the Winter Crimson, but of good color. (Pkt. 20c) (oz. \$1.20) (¼ lb. \$4.00) (½ lb. \$6.50) (lb. \$12.00) postpaid.



Wagner's Giant

RHUBARB ROOTS

Wagner's Giant Seedling—(15c each) (\$1.00 per dozen)

Truck Farmers Near Town Have Big Advantage in Retailing

Since the establishment of municipal markets in various parts of the city and a free license to the producer, the small farmer living on a good road, within 25 miles of the city can build up a profitable trade for all he can produce of fresh vegetable, fruits, poultry and dairy products. The road to success depends largely upon the ability of the grower to furnish a good article in season, give honest measure and to have polite, obliging manners. Politeness, honesty and quality of produce go a long way in making and holding trade. Any one accustomed to eating freshly gathered vegetables will readily give an extra price for such. Remember no license is required to peddle.

THE BACK-YARD ASSET

The London Times is authority for the information that workingmen of Belfast, who cultivated their garden plots in their spare time during the past year, added \$520,000 worth of vegetables to the supply of the city food and aided materially in keeping down the high cost of living. The cultivation of back yards in California would go far to relieve the cost-of-food situation which is proving such a problem to the housewife.

A & M Salsify



Salsify

Culture — Sow the seed in the spring in drills one foot apart and one inch deep, thinning out plants to four inches. It succeeds best in light, well-enriched soil. One ounce of seed for 50 feet of drill.

Mammoth Sandwich Island

A large and superior variety. Mild and delicately flavored. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.10) (lb. \$4.00) postpaid.

A & M Sorrel

Broad Leaved

This is boiled and served like spinach, also delicious soup is made with it, and it possesses a very fine flavor. As the hot sun tends to increase its acidity, a northern exposure is advisable. It should be sown in drills 18 inches apart. It is hardy but the roots should be divided every four years. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (lb. \$2.25) postpaid.

A & M Squash

WINTER VARIETIES

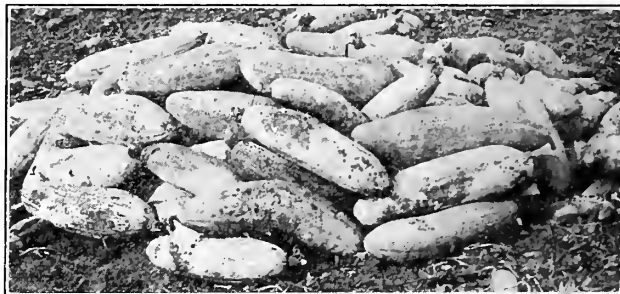
Culture—Seed should not be planted until all danger of frost is past. In open ground plant in hills ten feet apart where irrigated, and fifteen feet apart where not irrigated. In orchard, plant only one row between trees. When the vine is well along, do not flood the hill, but keep the irrigation furrow nearly as far from the hill as the length of the vine. Keep in mind that the roots are longer than the vines.

Fordhook Squash This is a most desirable squash for either summer or winter use. The vines are of strong, vigorous growth and wonderfully productive. Squash oblong in form, eight to ten inches in length, slightly ridged; smooth, thin, yellowish skin; flesh very thick and of a light yellow color. If gathered young for cooking, no other squash approaches it in flavor, while if allowed to ripen on the vine they can be stored and will keep in excellent condition until late the following June. Either for baking like sweet potatoes or making pies during the winter, the quality is very fine. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.



Green Warty Hubbard

Green Warty Hubbard This variety is grown more largely probably throughout the United States than any other. It is used in many ways, but mostly for pies. It is a good keeper and because of its hard, warty rind, it is the best of shippers. Therefore many acres are grown in Southern California for that purpose, and many more for the Bakers, the Canners, and family consumption. When in doubt what to plant for a fall crop, plant Hubbard Squash if your soil is suitable. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.



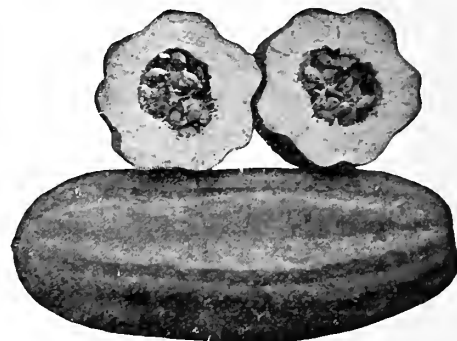
Banana

Banana The squash grows from one to two feet in length. The skin varies from a bright yellow to a dark olive green. Flesh firm and solid, of beautiful orange-yellow and excellent quality. Mr. E. L. Van Ripper says it is the sweetest of all squashes and wishes everyone to try it. It keeps from one season until another. When quite young it is excellent to cook as a marrow. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

The Banana and English Cream Marrow have made great strides in the commercial world. They are yet far behind the Hubbard, but they have the merit; the flavor and the keeping qualities that win. The grower who will plant largely of these varieties will not regret it.

English Cream Marrow

It is as sweet as a sweet potato, and has none of that pumpkin flavor. It is good any way it comes on the table, and is better than Hubbard Squash for pie. It is 6 to 8 inches long and half as thick. (See picture.) Decidedly firm. It will keep from one season to another. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.



English Cream Marrow

A & M SQUASH—(Continued)

Golden Hubbard The flesh is of a deep golden yellow—a much richer color than the Hubbard—fine grained, cooks very dry, and has excellent flavor. In its keeping qualities it is fully equal to the green variety. (Pkt. 7½c) (oz. 20c) (¼ lb. 70c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Acorn Every home garden should have a few hills of this delicious squash. For table use or for pies it is unsurpassed, uniform in shape and bright red color which makes it a desirable ornament for the table.

Recipe—Remove the blossom end, take out all the seed, and bake in an oven. When baked, remove the edible portion, season and serve in the shell. In this way it looks like a huge acorn, and is quite ornamental. (Pkt. 7½c) (oz. 20c) (¼ lb. 60c) (½ lb. \$1.00) (lb. \$1.75) postpaid.

Pikes Peak or Sibley An excellent winter squash. Fine grained and superior in flavor and keeping qualities to the Hubbard squash, but not so well known. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.

Boston Marrow Fresh, bright orange or rich salmon color; for sweetness and excellence is unsurpassed. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (½ lb. 60c) (lb. \$1.00) postpaid.

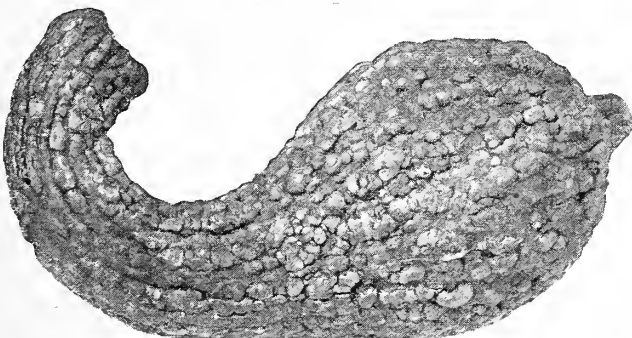
A & M Summer Squash



Italian

Italian Squash planted 5 feet apart. It should be used when quite young. When served it has a rich creamy flavor not equalled by any other squash. Some gardeners have made considerable money making a specialty of it. For the family garden we would recommend its use instead of the small White Bush Scallop, because of its excellent flavor. Since our introduction of this squash a few years ago, it has now become one of the staple products on the market. It is listed with the daily market reports, and is grown largely by the gardeners in frostless sections for the early trade. (Pkt. 7½c) (oz. 15c) (¼ lb. 50c) (½ lb. 80c) (lb. \$1.50) postpaid.

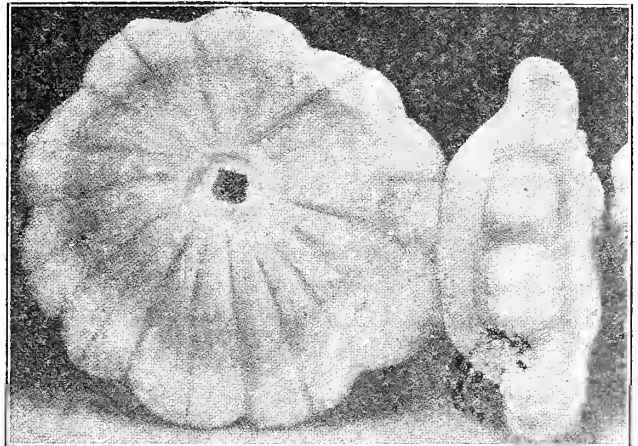
Golden Summer Crookneck The popular well known Crookneck. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.



Golden Summer Crookneck

READ

Inside Front Cover page.
Pages 3, 4, 5, 6, 7 and 8.
For insect trouble see pages 9 and 64.
For Fertilizers, see page 65.
For tabulated information, see page 10, also inside back cover.
Plants, see page 11.
Read the testimonials on page 6 and other pages.
All about Spinach, page 58.
All about Tomatoes, pages 59, 60, 61, 62.



A & M Improved White Bush Scallop

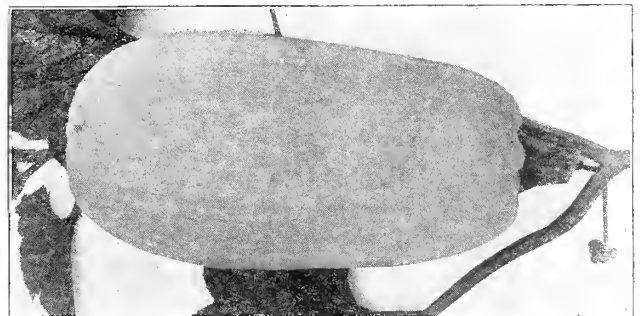
A & M Improved White

Bush Scallop As will be seen by the picture, this squash is similar to the well known White Bush Scallop, but it is more elongated toward the blossom, which makes it more desirable from the gardener's point of view. It looks better and sells more readily. It is very prolific. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (½ lb. 60c) (lb. \$1.00) postpaid.

Mr. Frank R. Myrick of Roosevelt, Cal., advises that he has found the White Bush Summer Squash to be excellent for pig feed.

Yellow Bush Scallop Similar to the White Bush Scallop in all respects except the color is yellow and claimed by some to have a better flavor. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.

Cocozelle An excellent squash for many purposes. Equal to the White Bush Scallop for the table when taken quite young. It is enormously prolific. When gathered closely and fed to stock, the vines will keep bearing continuously all summer, and far into the fall. It survives drouth to a wonderful degree. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.



Long White Marrow

Long White Marrow This is exceedingly delicious as well as the most prolific of all English Marrows. Steamed when quite young or fried as egg plant it is equal to egg plant itself. The squash is about 12 inches long when mature, and has a light creamy color. (Pkt. 7½c) (oz. 15c) (¼ lb. 40c) (½ lb. 65c) (lb. \$1.25) postpaid.

C. F. DIXON, California: Last year I got of you a few squash seed with my order, called Long White Marrow, which proved so much superior to any other summer squash that I ever saw or raised that I could not help but inform you of my thankfulness for having it. I sometimes wonder if it was not some new kind that you sent me. At any rate, it grew on very dry ground without irrigation with only a very reasonable amount of cultivation. Growing vines like a pumpkin and matured before the Crookneck and continuing until Christmas, and I believe would have been bearing yet if frost had not killed the vines. For hardiness and tonnage, I believe it would be ahead of any pumpkin I ever saw. At least my pumpkins did practically nothing under even better conditions.

We add that the Italian and Cocozelle Squash are as good and is more prolific.

A & M Spinach

Spinach cultivation will be carried on much more extensively in California in the future, according to a bulletin just issued by Stanley S. Rogers of the University of California. This will be due to the great demand for this crop for canning purposes.

"Spinach is well adapted to a large area in California," Professor Rogers continues, "and may be grown wherever the conditions are favorable for the production of vegetables. Under normal conditions when growing spinach in large tracts, the cost varies from \$25 to \$35 per acre, exclusive of land values of fertilizers. The yield per acre varies from three to five tons, with an average production of four tons. (As much as 8 tons have been grown.) When selling to the cannery the customary price is \$25 per ton.

"Spinach is best adapted to a rich, light loam and is not a satisfactory crop to grow on soils of poor quality or those which will not retain moisture. The climatic requirements of this crop are very exacting. The plants will stand without injury a relatively low degree of temperature but are seriously injured by heat. Planting early in the fall and late in the spring should be avoided since the plants will not make a satisfactory growth during hot weather. When planting during the rainy season, provided the soil is of a sandy nature and is free from weeds so that it will not pack wet, this crop may require no cultivation. The crop is ready to harvest in six weeks to three months after planting."

Professor Rogers' article, entitled "Spinach Growing in California," may be obtained by writing to the University of California College of Agriculture, Berkeley.

J. M. Rusk reports that seven acres planted to spinach for canning brought \$746.64. The crop was all harvested within three months from time of planting.

MARKET—On the local market there is a uniform demand throughout the year for home consumption, but during the winter months the shipper requires enormous quantities. The canners contract for large acreage each year.

Culture—Sow in drills, one foot apart, and for succession, every two weeks; as it grows, thin out for use, keeping clean of weeds. It grows the year round in California. One ounce of seed for 100 feet of drill; 12 pounds to an acre.

A & M Summer Success For several years we have endeavored to secure a type of Spinach that would prove profitable to grow in summer time, and after several trials this one proved the greatest success. With moist, loamy or peat land the A. & M. Summer Success will grow leaves 14 inches long. The leaves are very meaty and crisp. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Prickly Seeded, or Winter Spinach

This variety thrives best in the coldest weather, and is the money-maker for the market gardener. Our seed is now American grown, and for several years has given entire satisfaction. The leaves are large, fleshy and very tender. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.



New Zealand

New Zealand A spreading vine with numerous branches. One plant will cover an area four feet in diameter. The tender tips may be cut every few days and cooked as spinach; it is just as good. One pkt. is enough for a family garden. (Pkt. 10c) (oz. 25c) (¼ lb. 75c).



Viroflay

Viroflay During the seasons of 1917 and 1918 this variety has become popular as an all-round spinach. It is desired by the grower because it is harder than other varieties and will produce in tonnage per acre more than any of them.

The canner and shipper like it because of its large smooth leaves.

The consumer prefers it because of its large smooth leaves. The consumer prefers it because it is exceedingly tender and of mild flavor. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25).

A & M Improved Thick-Leaf Winter

This new variety is one of our valuable introductions and has proven its superiority over all other varieties for beautiful large thick-leaved bunches that bring double the returns to the grower; sells more readily to the peddler and pleases the housewife. For canners no other variety is equal to it. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

Bloomsdale Large green thick savory crumpled leaves, grows luxuriantly, producing twelve to fifteen tons per acre. Throughout the East and South, this variety is used more extensively than any other. Try it here. (Pkt. 7½c) (oz. 10c) (¼ lb. 35c) (½ lb. 60c) (lb. \$1.00) postpaid.

Long Standing This is a good sort for market gardeners because it is slow to shoot to seed, and the quality is equal to the best winter variety. (Pkt. 7½c) (oz. 35c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

THE SPINACH INDUSTRY OF CALIFORNIA

(From the report of R. G. Risser, Assistant Truck Crop Specialist.)

In California spinach is grown commonly for local markets, extensively for canning, in an increasing area for seed production, occasionally for Eastern shipment, and is also coming into use for an evaporated vegetable.

As a canning crop, particularly the extension of the area of spinach cultivated has been so rapid that it has been nothing short of phenomenal and spinach is now entitled to a conspicuous place in the records of the California pack of vegetables. Although the pack of vegetables of various kinds in this state has been increasing greatly from year to year, none of the other products have shown the same high ratio of increase which has been shown by spinach. From experimental plantings in 1914 the acreage has grown by leaps and bounds until close to 3,000 acres were planted for the 1918 spring pack.

The maximum yields of spinach run high. On good soil under intensive cultivation 8 tons per acre is not uncommon in a favorable season. The normal production is estimated at 6 tons per acre, which was closely approximated by the 1918 yields.

The variety used is of utmost importance. **Prickly Winter** has been the favorite variety, but **Long Standing** has been used for late plantings and is well liked.

A & M Tomatoes

Culture—Tomatoes do best on light warm, not over-rich soil, and success depends upon securing a rapid, vigorous and unchecked growth during the early part of the season. Sow in hot-beds from 6 to 8 weeks before they can be set out of doors, which is when danger from frost is past.

Transplant three to six feet apart in rows four to six feet apart, according to the variety,—three feet for those varieties of upright growth, as the Dwarf Champion, and six feet is not too far apart for vining varieties which will soon cover the ground solidly. The soil should be plowed and pulverized to a depth of ten or twelve inches, the deeper the better, in order that the roots may keep in the cool earth, for as soon as the roots are heated by the hot, dry soil near the surface, the plant quickly sickens and dies, and the grower can see no cause for it.

In the early fall when the nights have become cool and heavy dews prevail, it would be well to spray with Bordeaux Mixture, to prevent blight. It may be necessary also to spray after each rain throughout the winter.

To prevent root-blight, pour a cupful of Bordeaux around the stem at the surface of the ground.

The time of planting and variety depend upon your local market, soil and climatic conditions, and the purpose for which they are to be grown.

On sandy loam soil near the foothills, where it is nearly frostless, we recommend planting seed of the A. & M. First Early and Early Stone in hot beds during November, December, and January for winter and early spring tomatoes. Tomatoes that mature the latter part of April are considered early for Southern California.

Plant seed of the Stone and San Jose Canner varieties during April, May, June and July, for the summer and fall crops, for canners and shippers.

For the **home garden** plant the **HOME TOMATO** and the **Ponderosa**, or **Beefsteak**.

For shipping, only the perfect tomatoes must be selected, and these bring about \$700.00 per carload, and net the grower about \$300.00 per acre. A community growing for car lot shipment should plant not less than one hundred acres, and they should be ready for shipment from Sept. 15th to Feb. 1st, after which time the Southern tomatoes dominate the market.

MRS. E. C. KELLER, California.

I am sending you an order for seeds which you can send by mail or express at your discretion.

I must tell you of my tomato plants which I planted from seed I bought of you.

I put out the plants on our little ranch in Sonoma County. The frost (which came late) set them back but they are now filled with great clusters of large tomatoes that excite the wonder of all who see them.

All the farmers in the neighborhood of our ranch used to smile as they looked at my inadequately cultivated patch of tomatoes, but now their smiles are gone and they can't understand how I got so many tomatoes on such thin vines as the A & M Early or how I could produce such magnificent vines as the Hummer Globe.

A & M Main and Late Crop Stone Tomato

For Market Near and Far---the Tomato for Canning

The New Improved Stone This is the most popular tomato in Southern California. Several thousand acres are planted to this variety exclusively for shipping to Eastern points after other tomatoes have been destroyed by frost. For this purpose the seed is planted about June 15th, and the tomato brought to full size about October 1st, after which it gradually ripens as wanted for shipping. The tomato is of good size, bright red, solid and smooth, enormously productive. The canners prefer it because of its uniformly desirable size and solidity for canning. The grower prefers it because of its vigorous growth and large production extending throughout the season far into the winter months.

(Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00).

San Jose Canner
The Big Tomato for Big Yield

San José Canner For several years growers in the San Joaquin Valley have recommended this tomato. We are slow to offer our trade any new thing that we are not thoroughly familiar with. Therefore we tried this tomato and can say it is superior to the Stone for the market gardener's main crop, because it is just the tomato for the table. It is not sour, but a delicious meaty tomato. Just the thing that will sell ahead of the other fellows at the market. It is large, prolific and deep red. (Pkt. 7½c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) **postpaid**.

During the season of 1913 this variety was planted more largely than ever before by local canneries. It proved highly satisfactory because it yielded more tonnage per acre. A much larger acreage will be planted this coming season.

The Escondido Canning Co. had printed the following instructions and handed it to their growers:

SUGGESTIONS AND REMINDERS THAT WILL HELP RAISE A BIGGER AND BETTER TONNAGE PER ACRE

Irrigation—Watch the soil carefully. Dig down six inches to one foot and check up on your moisture.

Always keep an even moisture in the ground. An uneven supply of moisture has a tendency to cause blight, blossom end rot, and cracking of the fruit; also gives an irregular growth, making the vine go to growth more than to setting fruit.

Do not irrigate when the vines are in heavy bloom.

Do not furrow out too close to your vine.

Cultivation—The roots of the vines should be inspected, so that the grower knows his root system, what depth and how far out they have extended, and then let that govern the cultivation.

Do not cultivate too deep nor too close to your vine.

Do not leave your ground in ridges, as it has a tendency to dry out faster.

Keep a fine mulch on top.

During the last cultivation leave a shallow furrow in the center of your row for future irrigations.

Diseases and Spraying—Bordeaux Mixture—Four lbs. of bluestone, 5 lbs. of lime to 50 gallons of water. The formula 5-6-50 is used for good sized plants. One-fourth to one-half pound Arsenate may be added to either formula. The above spray is used for blight or a general repellent.

Blossom end rot is caused from an uneven water supply.

The tomato stalk borer is generally found working in vines where weeds have been hoed and have been allowed to lay. After hoeing weeds burn them. After the worm has been at work the leaves of the vine will turn yellow and show a heavy downward growth; also the stalk of the vine will have a golden appearance. Give vine a good pruning and spray with Bordeaux mixture.

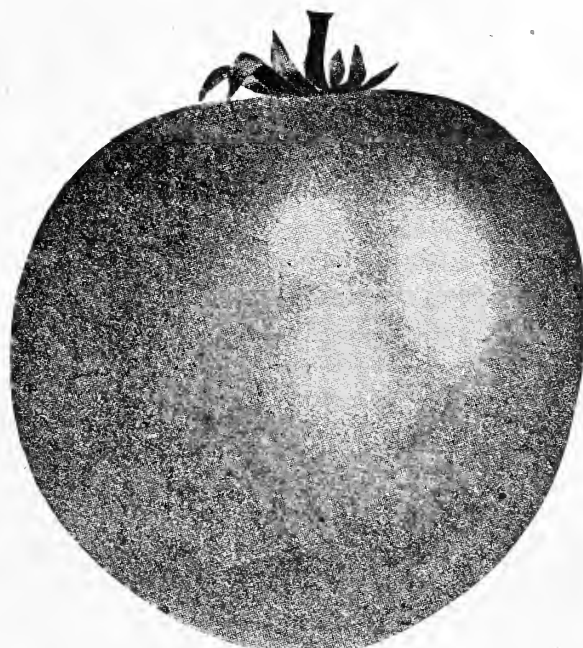
Tomato Fruit Worm—Beware of this worm. The minimum damage that this worm does to the crop is not less than 30 per cent. That represents lots of money.

Keep a close check as to when moths are working, which can be done by setting several wash tubs or large pans in the field at night. Place a lantern in the tubs, filling the tub with enough water so that it will come up to the base of the lantern. Put a small portion of coal oil in the water. Let the lamp burn all night. That will get a certain percentage, but its main use is for a warning.

Picking and Hauling the Fruit—Pick carefully and watch your pickers.

Don't disturb the vines any more than can be helped. Impress that upon your pickers.

THE HUMMER ALWAYS SATISFACTORY



The Hummer

Hummer We consider this one of the finest tomatoes for the market gardeners. It is early, solid, smooth, good size, bright red, and enormously prolific with abundant foliage to protect the fruit from scalding. As a shipper it cannot be excelled, even by the popular Stone tomato. (Pkt. 7½c) (oz. 50c) (¼ lb. \$1.75) (lb. \$5.00) **postpaid**.

A & M First Early



A. & M. First Early

Big Money Maker
In the \$500,000 class.

A & M First Early for the early market and for early canning. We introduced the A. & M. First Early in 1909, and from that time to the present it has superseded all other early varieties throughout Southern California, and is continually growing in popularity here and elsewhere. For a first early money-maker, it has no equal in the tomato line. We cannot give it too much praise. The growers are not looking for an earlier one. It is good enough. (Pkt. 7½c) (oz. 60c) (¼ lb. \$2.00) (½ lb. \$3.50) (lb. \$6.00) postpaid.

Dr. E. L. Paulding writes: "Gentlemen: I just want to tell you how well your tomato has paid me. Last December I got some of the A. & M. Tomato seed of you. I have my own plan of forcing, but it is not all in forcing, for I planted some other early sorts the same way, and served all alike. Yours was fully two weeks ahead of Earliana, if not more. I sold tomatoes for four weeks before I had any competition, getting all I asked for them, and having still the lead and the finest tomato in the local market."

The A. & M. First Early made a record at Escondido. W. F. Smith says, "I transplanted latter part of June, began picking Sept. 1st, and during the month of September, I delivered to the cannery from seven acres, forty tons, and the vines are yet so full of tomatoes I cannot miss the forty tons taken out. That is far from the half of them. They had only one irrigation, that about August 10th."

Some Success With A. & M. First Early Tomato

Mr. J. A. Newfeld, residing ten miles east of Visalia, reports the sale of one-half acre of A. & M. First Early Tomatoes for \$450 at wholesale prices. He has picked as much as 3500 pounds per week.

Mr. Hal Wood of Palo Verde writes as follows: "Last season I planted one-third of an acre to A & M First Early tomatoes. June first I began marketing and for thirty days sold an average of \$10.00 per day. After deducting the cost of growing and marketing I had a net gain of \$175.00 from this plot."

Ponderosa, or Beefsteak A very large, purple to and of excellent flavor. Our strain is round and smooth, not the usual oblong wrinkled kind. It is a favorite for the home garden, for which purpose we have on hand from March 1st until June extra fine, large, strong transplanted plants. (Pkt. 7½c) (oz. 55c) (¼ lb. \$1.85) (½ lb. \$3.00) (lb. \$5.50) postpaid.

MILTON BASTABLE, Buckhannon, W. Va.

I got a packet of Ponderosa from you last year and they were fine and were almost blight proof. Please send as good or better this year. Thanks for your catalog, it is the best I get.

Golden Beauty A large yellow tomato of delicious flavor, and when preserved with a slight flavoring of lemon, is better than preserves made of any other tomato, because it lacks the strong tomato flavor. It is an excellent variety for salad. (Pkt. 7½c) (oz. 35c) (¼ lb. \$1.00) postpaid.

Golden Ponderosa A very large yellow tomato having a delicious flavor making a delightful salad. The yield is enormous. Jordan and Casey of Redondo set out on May 25, 22 plants. On August 25 began picking; by November 15 they had picked more than 2000 pounds of tomatoes. The gentlemen are experienced tomato growers and say they never saw anything to yield so many large smooth tomatoes. (Pkt. 7½c) (oz. 50c).

CONSULT THE INDEX

You may want information that you cannot readily find.

Consult the Index.

Keep this book, you will need it until you get another.

John Baer



John Baer has exceeded every claim we made for it last season. It enabled the canners to begin two weeks earlier. The gardener brought to the market finer early tomatoes than he ever had before. Every tomato a smooth one. It is very prolific, every cluster bears four or five uniformly sized smooth tomatoes red from blossom to stem. We recommend it for heavy soils and for planting in young orchards. It has naturally a scant foliage suitable for early maturing but will yield ton for ton with the Stone. The John Baer is one of the best all round all season tomatoes ever offered.

For early market and early canning plant the John Baer. (Pkt. 7½c) (oz. 50c) (¼ lb. \$1.75) (½ lb. \$2.75) (lb. \$5.00).

Earliana The plants are quite hardy, with rather slender branches and moderate growth, well set with fruits, nearly all of which ripen very early in the season. The tomatoes are bright red and close together in clusters of five to eight; all of medium size, averaging 2½ inches in diameter. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Bonnie Best Extra early, bright red, uniformly smooth, medium sized, solid and very prolific. It is very popular among growers of early tomatoes throughout the United States and wherever it has been tried. (Pkt. 7½c) (oz. 50c) (¼ lb. \$1.75) (½ lb. \$1.75) (lb. \$5.00) postpaid.

Dwarf Champion (Tree Tomato)—Has long been a favorite midsummer tomato. Pink in color, smooth and solid, making it a good shipping variety. This has proven very satisfactory in Arizona. Its dense foliage protects the fruit from sunburning. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Dwarf Stone (Tree Tomato)—Large, red, smooth and solid. The stalk is upright, with dense foliage protecting the fruit from the heat of the sun. It is a desirable tomato to grow in the interior valleys. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

Chalk's Early Jewel Excellent early tomato for home or nearby market; very prolific, red, smooth, and desirable size. Its mild flavor makes it desirable as a salad. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (lb. \$4.00) postpaid.

June Pink The most popular extra early tomato grown in the South and East. It is very prolific and may be compared with the A. & M. First Early except its pink color. (Pkt. 7½c) (oz. 40c) (¼ lb. \$1.35) (½ lb. \$2.25) (lb. \$4.00).

Grape Tomato It makes an attractive arbor vine with a profusion of delicious fruit for preserving. (Pkt. 7½c).

Get a Home Canning Outfit, and can your surplus tomatoes. Put them up right and establish your brand.





Mr. Walton and one plant of Home Tomato trimmed to fit the trellis. Mr. Walton counted 360 tomatoes

Home Tomato History of the Home Tomato—We are indebted to A. Brandenberger of Lan-kershim, for calling our attention to this wonderful tomato. In his hotbed one plant grew far ahead of all the others. It was quite distinct in having large foliage. Mr. Brandenberger set it in a four-inch pot, and when only eight inches high, it blossomed, and when twelve inches high these blossoms developed three nicely shaped tomatoes. This plant was exhibited in our window as a curiosity. It was transplanted to the ground and grew to cover an area of fourteen feet in diameter, loaded with tomatoes. In order to keep pure, Mr. Brandenberger propagated from cuttings off the original plant. Therefore we termed it the Home Tomato, on account of its earliness, delicious flavor, nearly round smooth shape, solid meat, and productiveness. Just the tomato for a home garden, where it can be trellised when space is limited. (Pkt. 7½c) (oz. 50c) (¼ lb. \$1.50) (½ lb. \$2.75) (lb. \$5.00) postpaid.

Genuine Italian Red Pear Shaped

Used largely for making puree, preserving and spicing. (Pkt. 7½c) (oz. 50c).

Yellow Egg Excellent for pickling and preserving. Small yellow egg-shaped tomato of mild flavor. (Pkt. 7½c) (oz. 50c) postpaid.

Ground Cherry Grows like a tomato; fruits like a tomato, but the small fruit is enveloped with a husk. It is good for preserves. (Pkt. 7½c) (oz. 50c).

DESTROY THE TOMATO FRUIT WORM

We received this interesting letter in response to our inquiry concernin gthe small worm that bores into the tomato:

I have examined the worms in the sample of Tomatoes you sent me and find them to be what is known as the Tomato fruit worm which commonly bore into the green and ripening fruit. This is not a new pest; I have known it for over twelve years and during that time I have noticed its increase from year to year until now it is quite a serious pest.

The best remedy I can advise is clean cultivation at all times and destroy by burning all weeds in and about the field; this will destroy all eggs that otherwise would be carried over through the winter.

The treatment for the growing crop—spray with Lead Arsenic, three pounds to fifty gallons of water, while the vines and fruit are small; this will kill many of the few worms that first appear, and every worm killed at that time means a great many later in the season.

In making war on all insects, we should realize the importance of making the fight before the enemy gets strong and many of our insect troubles could be avoided if we would commence the control measures before the insects become numerous.

Trusting this is the information you want, I am,

Yours very truly, (Signed) William Wood,
Horticulture Commissioner.

A & M Turnips

Culture—See page 7). Turnips may be sown broadcast on damp sandy soil or in drills as beets and carrots. Drill in rows ten inches apart, not too thick in the row. The Purple Top Globe variety is now leading in popularity because of its mild flavor and its adaptability to our summer climate.

Early Purple Top Strap-Leaf A very popular variety in this section for either family or market use; large size, white, purple above ground; flesh fine grained. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Golden Ball or Orange Jelly

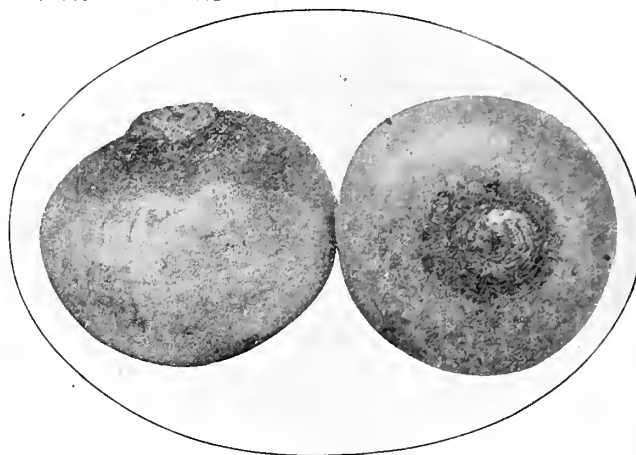
A rapid grower of excellent flavor; bright yellow color; good keeper and a superior table variety or for stock. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.



Early Purple-Top Strap-Leaf

Early White Flat Dutch An early white-fleshed strap-leaved variety; for quick growth, mild flavor and excellent quality. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Early White Globe A large, round turnip, with sweet flesh. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.



Purple Top Globe

Purple Top Gloce Solid, very sweet, slow to get pithy. The very best variety for the summer season. Indeed, the best for any season, but slower to mature than the Strap-Leaf. (Pkt. 7½c) (oz. 25c) (¼ lb. 85c) (½ lb. \$1.50) (lb. \$2.50) postpaid.

Snowball Next to the Purple-Top Globe in popularity, but preferred by many because of its beauty and excellent flavor. It is slow to get pithy in the summer, but always crisp during the winter. (Pkt. 7½c) (oz. 20c) (¼ lb. 65c) (½ lb. \$1.10) (lb. \$2.00) postpaid.

Improved Purple-Top Rutabaga

The best of the Swede Turnips. Very hardy and productive; flesh yellow, is very solid, sweet and well flavored. (Pkt. 7½c) (oz. 25c) (¼ lb. 75c) (½ lb. \$1.15) (lb. \$2.25) postpaid.

SOME INTERESTING FACTS INCIDENTALLY LEARNED WHILE PROPAGATING THE HOME TOMATO

Cuttings from the original plants, which were grown in a sandy loam, planted in adobe and watered freely grew large irregularly shaped tomatoes quite acid in flavor, while cuttings from the same plant grown in sandy loam at Artesia even with some alkali, grew smooth, uniformly shaped tomatoes.

If soil will produce such varied results with cuttings, it is likely to make a similar difference with plants grown from seed, which would account for many disappointments.

Also if soil will produce such varied results with tomatoes, it may do likewise with many other vegetables and also fruits.

Home and Field Canning Machines

Write for our Catalogue of Canning Machines

"Do not let valuable surplus Fruits and Vegetables go to Waste." This is the precautionary warning sent out by the Agricultural Department at Washington, D. C.

Adults and children can, in a few hours, with one of our HOME CANNING OUTFITS, learn to preserve all the surplus fruits and vegetables off the ranch for the family needs throughout the year, and sell the surplus, turning to profit the perishable products which formerly went to waste, thereby increasing the food supply and reducing the high cost of living.

INTRODUCTION BY THE MANUFACTURER

Our canners have been carefully designed to make them best adapted to the work for which they are intended and are the result of our long experience and careful investigation. We present them upon their merits and solicit an examination of their efficiency and durability.

Every machine we make is carefully tested before it leaves our shops.

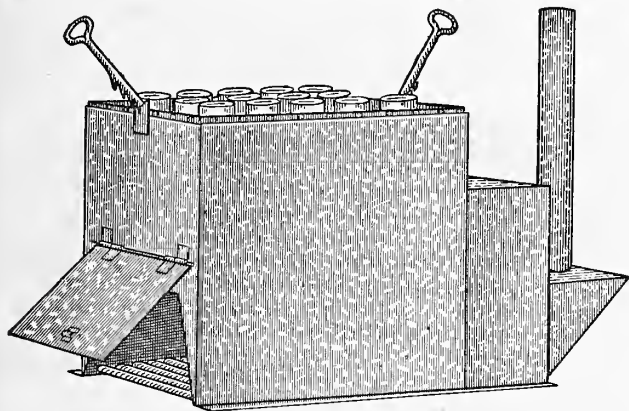
Those using the home canner on the farm naturally have the best fruits and vegetables that grow and the products that are canned in the prime of their freshness within a few hours after picking are the highest quality of goods that can be packed.

Vegetables canned fresh from the vines are never permitted to wither and they retain their natural fresh-like flavor the same as when picked fresh from the vines.

Our instructions on home canning are simple; sometimes we use sugar and sometimes a savor of salt, but nothing else is used.

NO PREVIOUS EXPERIENCE REQUIRED

Our book on canning is written up so plainly and our process is so simple you will make a success with the first lot you can. There are fruits and vegetables enough going to waste each year in this country to save millions of dollars if canned up and sold on the local market. Of the demand for canned goods it is hardly necessary to speak.



No. B-N

Size 28 in. Long, 24 in. High, 11 in. Wide
HOME AND CLUB CANNING MACHINE NO. B-N

This machine we regard to be the best value and the most perfect Canning boiler that has ever been put on the market. This new model No. B-N has hollow grate bars which increases the heating capacity to a very great extent. The fire-box of this Canner is made in the Canner as shown by the cut, and trays full of cold fruit may be inserted into this canning boiler while the water is boiling, the heating capacity being so great the water will not cease to boil when this cold fruit or vegetables are inserted into the water. This makes this particular boiler extremely desirable. These hollow grate bars strengthen the boiler at the same time almost doubling the heating capacity. Before offering this machine on the market we gave it a solid year's test and we found it to excel any model that we have ever made. This Outfit complete will consist of the Canning boiler, two lifting hangers, two can trays, one Capping Steel, one Tipping Steel, a pair of can tongs and a book of instructions. Will process three layers of fruit at a cooking, fourteen No. 2 to the layer, making a total of forty-two or eight No. 3, making a total of twenty-four. It is also equipped with a close-fitting lid. Shipping weight crated in wood 55 lbs., in carton about 42 lbs. This Canner will work any kind of glass jars or tin cans and burns wood or coal. Price \$12.00.

Make a Charcoal Burner Out of a Five-gallon Oil Can
CANNING MACHINE NO. BB-N

Size 30 in. Long, 26 in. High, 26 in. Wide

This machine is made identically the same as our No. B-N machine, being constructed with the hollow grate bars. For the capacity it is the greatest value we have ever offered. It has just double the capacity of the B-N machine. This Canner will process eighty-four No. 2 cans at one time or forty-eight No. 3. The Outfit complete consists of one Canner, four can trays, four lifting hangers, one Capping Steel, one Tipping Steel, one pair of can tongs, one charcoal furnace and a book of instructions. Shipping weight 80 lbs. This Canner will work any kind of glass jars or tin cans and burns wood or coal. Price \$16.00.

Marketing the Small Crop at Home

READ CAREFULLY

THE FOLLOWING ARTICLE TELLS WHAT OTHERS ARE DOING, AND MAY SUGGEST WHAT YOU MAY DO TO ADD TO YOUR REVENUE.

If your home is situated by one of the many highways, where hundreds and even thousands of autos travel each day, you will have a very convenient market for your produce.

If you have watched the growth of the many fruit, vegetable and flower stands by the wayside, you were interested and sometimes amused at the assortment of produce offered, and how the advertisements on the bulletins announce the commodities.



Market Place of Charles Richardson along the San Bernardino Blvd.

These stores are no longer supplied alone by the rancher on whose place they are located, but by neighbors who do not live along the highway, and thus a community of interests is advanced producing a market for a neighborhood, adding to the general welfare. Therefore we suggest that each community living within half mile or mile of highway, get together, select a cross-roads corner or other shaded place, build an appropriate and attractive rustic or wicker house with suitable fixtures, appoint a keeper, and each one supply the particular articles they may have in season.

A system of co-operation will soon determine what each one may set about to grow so that the store may be regularly and judiciously supplied. When there is a surplus of anything, let the store manager arrange to dispose of it with some commission house or dealer in the city. In this manner of co-operation a dozen ranchers may collectively have enough to market, while one man individually will have too little to be worth while, and thus many dollars worth of good things are sold which otherwise would be wasted, the value of which would total many hundreds of dollars.

Read this catalog carefully, that you may know what to plant each month, in order that the store may be regularly supplied. In that way a dependable trade will be established. People who pass regularly will learn to depend upon this store for their regular supply of things in your line. But you should aim to have a constant stock of everything in season.

Earle D. Hartshorn, California.

Our War Garden has begun to do its part toward feeding the family. If everyone could see the way our store bills have fallen off they would all have one.

Mrs. M. E. Igo, California.

My ranch (which is small and on which I raise truck garden) is situated in Mill Creek Canyon three and one half miles this side of Forest home. I had a stand by the roadside under an apple tree. During July and August I sold almost \$100 worth of vegetables and fruit during that time. Am sending a small order now taken from an old catalog. I would like you to send me your 1918 catalog. I am an old lady in my 64th year but I like to raise vegetables.

SOMETHING NEW

SPICED CARROTS:—Stew Carrots until soft; make a syrup as follows: 2 cups brown sugar, $\frac{3}{4}$ cup vinegar; $\frac{3}{4}$ cup water; add mixed spices. Put into this syrup and cook until the juice has permeated them thoroughly; add a little salt. Carrots prepared in this way compare favorably with spiced peaches. Large carrots should be quartered, but the small ones usually discarded when thinned out, are just the proper size. They are not only delicious to eat, but decorative as well.

Insecticides and Pest Exterminators

Notice—Poisonous insecticides cannot be sent by mail. Many insecticides are not dangerously poisonous. Some are in liquid form, put up in tins or glass; to send these by mail, extraordinary care must be given to the packing, which necessarily adds much to the weight and therefore the postage may seem out of proportion to the purchase price.

On bulky items where the postpaid price is not mentioned, we prefer to send by express, and shall do so unless requested to do otherwise.

If wanted by parcel post, add sufficient money to the given price to cover postage. Estimate liquids plus package at the rate of 4 pounds to the quart, or 14 pounds to the gallon. See parcel post rate on inside of front cover page.

Prices fluctuate and are subject to market changes.

ORTHO Brand Sprays

We are the Southern California agents for these high standard insecticides.

At the Panama-Pacific International Exposition they won the Medal of Honor, the highest award ever given Sprays at any Exposition. Ortho Sprays cannot be sent by mail.



ORTHO Dry Arsenate of Lead Neutral. This is used in damp, foggy weather and, no matter how delicate the foliage, there is no danger of burning. It can be used successfully to control the codling moth, with practically the same results as the Standard Lead Arsenate. It has been used on peaches, pears, and delicate plants with marked success and without injury. It is used at the rate of 3 lbs. to 100 gallons of water. (½ lb. 45c) (1 lb. 70c) (5 lbs. \$2.75). Write for quantity price.

ORTHO Dry Arsenate of Lead Standard. A powder easily mixed in water and used for the control of codling moth, flea beetle, and all leaf eating insects. Use 2 to 4 lbs. to 100 gallons of water. (½ lb. 45c) (1 lb. 70c) (5 lbs. \$2.75). Write for quantity price.

ORTHO Zinc Arsenite This material combines high arsenate content with low water solubility. It is of great value in spraying apple and pear trees to control tussock caterpillars and other insects which are not poisoned by Arsenate of Lead. Also used for field crops, dusting or liquid application. Use about 3 lbs. Zinc Arsenite to 100 gallons of water; dusting with one to five parts of air-slaeked lime or sulphur. (½ lb. 50c) (1 lb. 75c) (5 lbs. \$3.00). Write for quantity price.

ORTHO Bordeaux Mixture (Powder). Recommended for peach, potato and tomato blight, and all fungus diseases. Mixes perfectly with water. Use 1 lb. to 50 gallons of water. (1 lb. 60c) (5 lbs. \$2.50) (10 lbs. \$4.00). Write for quantity price.

ORTHO Lime--Sulphur Solution Standard. A remedy for San Jose scale and other scale on deciduous trees, also red spider, peach leaf curl and peach blight. For red spider use 1 gallon of the spray to 50 gallons of water. For winter spraying on deciduous trees, 1 gallon of spray to 10 gallons of water. (1 qt. 60c) (1 gal. \$1.30). Also put up in barrels and steel drums. Write for quantity price.

ORTHO Dry Milled Sulphur This is a fine powdered sulphur, prevents mildew on beans, peas, roses and grapes, and also destroys red spider. Applied by dusting the plants. (½ lb. 45c) (1 lb. 70c) (5 lbs. \$2.20).

Ant Exterminator, Talbot's Power

The best known remedy to exterminate ants and roaches. Put up in paper shakers. (25c) (50c) and (\$1.00) size. Add 10c for package and postage.

BlueStone (Sulphate of Copper). Applied in time it will prevent mildew and all fungus diseases. Also prevents smut on barley and wheat, by soaking seed to be planted in a solution of 1 lb. to 6 gallons of water for ten or fifteen minutes. (Per lb. 25c). Write for quantity price. Can be sent by parcel post.

Carbon Bi-Sulphide (Liquid). For exterminating gophers, squirrels, ants or any vermin that live under the ground. Saturate cotton or other absorbent, put deep in hole and close all openings. For ants, pour into the openings. For weevil in grain, put grain in air-tight chamber; for 100 cubic feet of space use ½ pint Carbon Bi-Sulphide, saturate it into any absorbent so that it will evaporate quickly; close the chamber tightly for three or four hours. It is not necessary to remove the grain from the sacks. **Notice:** It is very combustible. Do not smoke or have fire near while handling. (12 oz. 40c) (25 oz. 60c) (1 gal. \$1.25). Cannot mail.

"BLACK LEAF 40"

Nicotine Sulphate—40% Nicotine

This is the insecticide that is so highly recommended by Experiment Stations. It destroys Aphis (plant lice), Thrips, Leaf-hoppers on all tree, bush and vine fruits, vegetables, field crops, flowers and shrubs; also Apple Red Bug, Pear Psylla and similar soft-bodied sucking insects—all without injury to foliage.

May be combined with other sprays. Highly concentrated. Soluble in water—easy to mix—does not clog nozzles.

You can not go wrong by ordering "Black Leaf 40" for sucking insects.

PRICES:

1 oz.	-\$0.25—makes 6 gallons spray
½ lb.	0.75— " 40 to 120 gals. spray
1 lb.	2.50— " 160 to 500 " "
10 lb.	10.75— " 800 to 2500 " "



Formaldehyde (Liquid). For destroying the germs of smut on grain, scab and rhizoctonia on potatoes. Dilute one pint in forty gallons of water, submerge potatoes one and one-half hours and grain only long enough to moisten it. (½ pt. 50c) (qt. 80c) (qt. \$1.03). Cannot mail.

S. P. Gopher Balls A sulphur preparation which is very effective in eradicating gophers and squirrels. Light the balls and insert them in the open runs, after which close tightly. Put up in boxes of one dozen, (40c) postpaid.

Gopher Candles Place in gopher or squirrel runs, light the fuse and close the openings. The fumes will kill all vermin. Per bundle of twelve, (50c). Add 10c for packing and postage.

Gopher Poison MOORE'S (Grain). A certain and specific destruction of gophers, squirrels, erows and mice. (Small size 50c) (medium size 90c) 5 gal. drums \$6.00).

Killscale-Soap For scale, lice and any sucking insect on plants. (2 lb. cakes 25c). Add 10c for packing and postage.

Lime-Hydrated (Powder). Destroys snails and slugs, also eradicates insects in the soil. Put up in (4 lb. cartons 20c) and (100 lb. sacks \$1.50). Cannot mail.

Mystic Spray (Liquid). For the extermination of mealy bugs. This insecticide has recently been introduced into Southern California and is highly recommended by many horticulturists and nurserymen. Dilute one part Mystic to thirty parts water. Add one ounce of Gold Dust to each gallon and use abundantly as a spray on all affected plants. (Pt. 50c) (qt. 75c) (gal. \$2.50) (5 gal. \$10.00).

To whom it may concern:
We have used the "Mystic," a liquid solution, as an insecticide and we find that, in the proportion of thirty to one, it is a very effective remedy for "Mealy Bug," as we have had as high as 90% kill.

It also works effectively against soft scale in a proportion of fifty to one.

Respectfully,
J. A. NORRIS & SON,
(Signed) R. D. Norris.

Nico Fume (Liquid). For aphids in hot-houses. Similar to but more volatile than Black Leaf 40. Nicotine is especially prepared for greenhouses and hot-beds. Either spray or fumigate by vaporization. Insert hot iron in the fluid. Sold in tins. (¼ lb. 50c) (5 lbs. \$5.50). Add postage.

Nico Fume (Paper). Sold in tins of 24 sheets. One sheet is sufficient to fumigate 100 cubic feet. Will rid green-houses and hot-beds of aphids, and chicken houses of lice and mice. Directions printed on each package. (24 sheets \$1.00) postpaid.

INSECTICIDES AND PEST EXTERMINATORS—(Continued)

P. S. C. Rosin Spray Effective for black, red, yellow, purple and citricola scale, mealy bugs, wooly aphids, black peach aphids and plant lice. Recommended by the Horticultural Commission. Dissolve 1 lb. of the spray in 2½ gallons of either hot or cold water and thoroughly mix before spraying it on trees or plants. (1 lb. can 30c) (2 lbs. 45c) (4 lbs. 75c) (40 lb. can \$5.00) (80 lb. can \$8.00) (bulk 7½c per lb.).

Slug-Shot, Hammond's (Powder). Destroys bugs, insects and worms on melons, lima beans, cucumbers and tender plants. Also for use on asters, roses and flowering plants. Easily distributed by duster or in water by spraying 1 lb. to 10 gallons of water. (1 lb. packages 25c) (5 lb. packages 75c). Cannot mail. Not injurious or dangerous to persons or animals.

Squirrel Poison See Gopher Poison.

Sulphur (Powder). Eradicates mildew and red spider. Anchor Brand, 110 lb. sack \$5.25; Diamond S Brand, 110 lb. sack \$4.50; Eagle Brand, 110 lb. sack \$5.10. (1 lb. 10c). Also note Sulphur under Fertilizers.

Sulpho-Tobacco Soap Used as a spray for aphids, thrips, mites, and a wash for skin diseases on animals. (Small size 10c) (large size 25c). Add 5c for packing and postage.

Tobacco Dust (Powder). For aphids and small insects in plant beds and poultry houses. (1 lb. 15c) (10 lbs. \$1.25). Cannot mail.

Tobacco Stems For fumigating green-houses. (1 lb. 15c) (10 lbs. \$1.00). Add 5c lb. for packing and postage. Also sold in 100 lb. bales at \$3.75 per cwt. f. o. b. here.

Tree Tanglefoot (Paste). This is a sticky substance applied to the bark of trees to protect them from all climbing insects and also rabbits. It will prevent ants from entering the trees for three or four months. (1 lb. cans 60c) (3 lbs. \$1.75) (10 lbs. \$5.00) (20 lbs. \$9.00).

Whale Oil Soap For scale and fungus. Should always be mixed with Black Leaf 40 to eradicate aphids. (½ lb. 15c) (1 lb. 25c) (50 lb. case \$6.00). Add postage.

Fertilizers

Write for Quantity Prices on All Fertilizers

The three most essential ingredients in fertilizers, to stimulate plant growth, are nitrogen, phosphoric acid and potash. In the following high grade fertilizers we have all of these combinations properly mixed to give the best and quickest results. They contain no weed seed and are easily applied.

For information concerning fertilizers, write for Bulletins No. 272 and 288 and Circulars No. 170 and 111 from the College of Agriculture, University of California, at Berkeley; for Farmer's Bulletin No. 921, United States Department of Agriculture, Washington, D. C.

Dried Blood Meal Is very rich in nitrogen and an excellent plant-food for increasing the yield of vegetables and fruit, and also for stimulating the growth of flowers. There is from 12 to 13% nitrogen. Price (per 100 lbs. \$7.25).

Bone Meal 3½% nitrogen and 16% phosphoric acid. Neither of these two elements are immediately in their action. If put in the soil in the Fall, some results will show the following Spring. Slow but sure. (Per 100 lbs. \$3.85).

Bradley's Fertilizers These fertilizers have been manufactured and placed upon the market for over fifty years, and we have handled them for more than twenty years. The aim of the fertilizer company is to furnish the fruit grower, farmer and trucker such mixtures as his special soil and crop conditions demand, and we can recommend the following kinds of fertilizer to be especially adapted to the needs of the various plant life.

Bradley's Lawn and Garden This brand is a well balanced complete fertilizer, intended for lawns, gardens, and is a general purpose fertilizer. Can either be sown broadcast and harrowed in or drilled with the seed. Excellent for berries of all varieties. (50 lb. sacks \$2.00) (100 lb. sacks \$3.90).

Bradley's Packers' Special This has been especially prepared for the gardeners and has given excellent results during the past year. It is all organic. Analysis shows 4% nitrogen, 10% total phosphoric acid and ½ of 1% soluble potash. Per 100 lbs. \$3.50.

Bradley's Tree and Vine A complete fertilizer that will give immediate results. Just the thing for trees, shrubs, vines and roses. Analysis 3% ammonia, 8% available phosphoric acid, and 2% available potash. Per 100 lbs. \$3.15.

Fish Fertilizer This fertilizer is composed of dried fish, finely ground, and is purely organic. An excellent fertilizer for all crops. Will last for several crops without the need of other fertilizer. Write for prices.

Gaviota Lawn Fertilizer The result from the use of Gaviota Fertilizer on plant life will be noted at once. It promotes the growth and appearance of grass and foliage, and increases the quantity and quality of flowers and fruits. May be used for house-plants as it has no offensive odor. Price (2 lb. cans 40c) (5 lb. cans 80c).

Leaf Mould Excellent for mixing with soil for potted house-plants, especially ferns of all kinds. Per sack \$1.00.

Gypsum This is not a fertilizer, yet it has an indirect fertilizing value which is mainly due to the fact that it has the power of changing unavailable forms of plant-food, especially potash, into available forms. A heavy dressing of Gypsum will greatly improve any soil, rendering it lighter and more easily cultivated, and relieve the tendency to crust and bake. Have the soil analyzed by the State Agricultural College before using Gypsum. Per 100 lbs. \$1.00.

Agricultural Hydrated Lime

It supplies the element calcium to plants; it makes "sour soil sweet," changes an acid condition to a slightly alkaline one; it has the power to shrink clay and adobe soils, making a larger number of crumbs from a sticky mass; it prevents packing, baking and cracking, makes cultivating easier; it promotes the normal decay of organic matter in the soil, preventing the accumulation of poisonous matter; it promotes the change of nitrogen in organic matter into available nitrates, liberates and places at the disposal of plants potash and phosphoric acid already in the soil. It destroys fungus and the germs of insect life that infest the soil. Hydrated Lime, because of its fineness, high calcium content and concentrated condition, is the ideal agricultural lime and the most economical on the market. Use one-half less than other forms of lime. In cloth sacks weighing approximately eighty pounds. (Per sack \$1.50). Write for prices in ton and carload lots.

Nitrate of Soda Contains about 15% nitrogen. Is very quick in action and entirely soluble. Is best applied after the plants are growing. Price fluctuates; write for prices.

Sulphur as a Fertilizer Experiments conducted during the past few years by noted soil chemists and practical cultivators have revealed the truth that Sulphur kills alkali, promotes nitrification, transforms potash and phosphates lying latent in the land into available plant food, thereby reclaiming and stimulating soil to produce greatly increased crops at a comparatively low cost per acre. The following are authorities for the above statements:

Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.

Dr. F. C. Reimer, of the Southern Oregon Agricultural Experiment Station.

Professors P. E. Brown and E. H. Kellogg of the Iowa Agricultural Experiment Station, authors of "Sulphurification in Soils."

Wonderful successes have been made by those who have fertilized soils with Sulphur. Here is one of the practical results:

Dr. F. C. Reimer, of the Southern Oregon Experiment Station, harrowed powdered Sulphur into Rogue River Valley land in the proportion of 300 pounds to the acre. He planted alfalfa in this sulphurized soil and in an adjacent untreated tract under exactly similar conditions. At a total cost of about \$10.00 per acre he harvested a crop of five times the yield of the adjacent field. He cleared about 500 per cent on his investment in Sulphur, of which a goodly part remained in the soil as a nest-egg for the next year's crop.

We handle only the best brands of Sulphur, which are as follows:

Anchor Brand, 110-lb. sack\$5.25
Eagle Brand, 110-lb. sack 5.10
Diamond S Brand, 110-lb. sack 4.50

Write for quantity prices.

Wizard Fertilizer A high grade fertilizer, which we recommend. It is clean, odorless and put up in a very condensed form. Excellent for house-plants and ferns. Use sparingly. (2 lbs. 30c) (25 lbs. \$2.00).

Westrobac Nitrogen-Fixing Bacteria

"Living Nitrate Factories for Field and Garden"

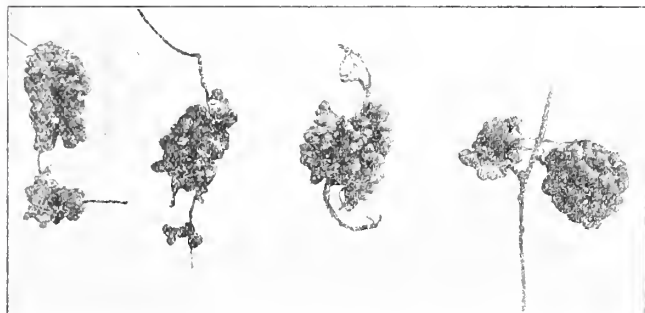
Bred for the West (Westobac) the Golden Medal Bacteria. Pure, Virile, Acclimated, Nitrogen gathering Bacteria.

Four ounces properly applied to the seed for an acre of ground will put as much nitrate into the soil as can be obtained in two tons of high grade commercial fertilizer with less labor and less expense.

This means profitable crops on poor or sandy soils, restoration of worn-out lands, increased crops on good lands.

WHAT THESE NITROGEN-FIXING BACTERIA WILL DO

1. These bacteria furnish the best and most valuable fertilizer in the world, in unlimited quantities and at only a nominal cost of money or labor.
2. They take nitrogen from the air, convert it into nitrates available for plant food, and then give it to the plant. In return the plant supplies them with carbohydrates, thereby enabling the bacteria to grow and reproduce themselves at an almost incredible rate.
3. They increase crops, under ordinary conditions from 25% to 60%, with no extra work. They make possible profitable crops on absolutely barren soil, such as sea sand or even coal ashes. They also improve the crops on good farm land.
4. They store up on the roots of plants the excess nitrates which the plant does not use. This is done in the form of nodules, varying in size from a mere speck to about a half inch in diameter. Official reports show this reserve supply of nitrates thus stored in the ground has been in some tested cases equal to 550 pounds per acre, or more nitrates than are contained in several tons of the average commercial fertilizer.
5. They gather moisture from the air at the same time they gather nitrogen, and also make it available for the future use of plants. This enables an inoculated field to withstand some droughts or dry seasons that would otherwise destroy the crop.
6. They work night and day making money for the farmer.



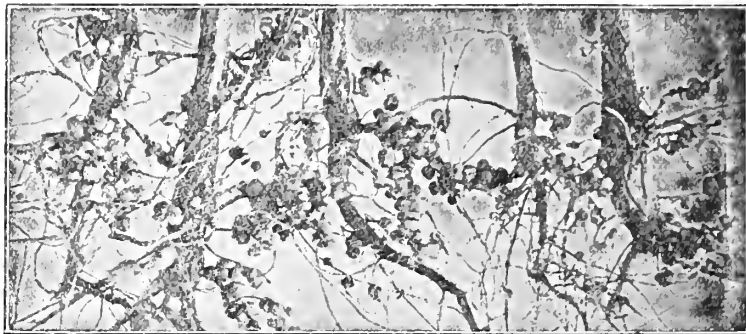
Westrobac Nodules, Actual Size.

Cover Crops and Green Manuring Crops

1. Green Manuring is the practice of incorporating into the soil any green vegetable matter, which, upon decaying, becomes Humus.
2. The purpose of this practice is to increase and maintain the organic matter.
3. The most beneficial family of plants for this purpose are the Legumes.
4. But better than the Legumes are the Legume plants treated with Westrobac, because of their increased ability, through the agency of their bacteria, to draw nitrogen from the atmosphere and deposit it in the soil.
5. Legume plants when associated with their own bacteria make better top growth and a deeper and stronger root system. Westrobac is the leader of all commercial Bacteria for Legume inoculation.
6. The Clovers and Vetches decay more quickly than other plants, and are converted into Humus in the shortest period of time, usually about 30 days.
7. The deep roots of Legumes are able to bring up plant food from greater depth than the shallower roots of other plants.
8. "Westrobac" is the trade name of our product, a Pure Culture of Bacteria bred to order only, thereby assuring freshness and virility.
9. No danger of fungus or weed diseases in using Westrobac; it is absolutely pure.
10. A few moments only are required to apply Westrobac to the seed and the process is very simple.

Agricultural Hydrated Lime promotes a slight alkaline condition which is ideal for the development of the bacteria, it furnishes calcium which is essential to them, and its physical effect produces good air and moisture conditions necessary for the bacteria above described. See page 65.

Nitrogen-Fixing Bacteria is no longer an experimental fact. There are instances where its benefits were not apparent. This is due either to the fact that the soil was already inoculated, as with a crop of alfalfa or other legumes, or the soil contained alkali that is deadly to the nitrogen germ.



Nodules of Nitrogen Produced by Westrobac. Available for Clovers, Alfalfa, Beans, Peas, Vetches, Lupines, Soy Beans, Burr Clover, Peanuts and all other Legumes.

Westrobac Has over 6,000 customers in California—five years ago it had only a few—the large number results from the success the few had at first and the subsequent users had later. Over 60 per cent of this year's business comes from former users. That tells the story of Westrobac's success.

A ton of stable manure adds to the soil less than 10 pounds of nitrogen—a tube of Westrobac that costs \$2.00 will add, when used with the proper seed, from 120 to 200 pounds of nitrogen per acre, at least 12 to 1 against stable manure. Nitrogen is one of the essentials of plant life and the element factor—especially in California where our long hot summers bake and destroy the humus—and as nitrogen is available so is the land productive. If you have plenty of nitrogen you should have big crops, and when you can get this plant food at \$2.00 an acre, it is folly to take a chance of getting a small yield when you can have paying returns.

Over every acre you have 30,000 tons of nitrogen—why buy it in a sack when Westrobac can take it from the atmosphere and put it in the soil. It is easy to apply, a 10-year-old child can inoculate seed for one or five acres in a few minutes. No chance to do harm—only good—and only a few minutes required.

Do not apply the bacteria to the seed in the sunshine or expose to the sunshine to dry after mixing. Remember that strong sunshine kills every form of bacteria. The best results are obtained when planting is done in the early morning or late afternoon or on cloudy days. If you drill the seed in moist soil you can plant any time.

Do not use the bacteria marked "Soy Beans" for clover seed, but use for the plant only whose name appears on the box.

The prices on Westrobac now in effect are as follows:

Garden Size	\$.50
100 acres and under ..	2.00 per acre
100 to 200 acres.....	2.00 " " less 5% cash discount
200 acres and over....	2.00 " " 10% " "

This culture is bred in San Francisco laboratories especially for California soils. We do not put out any culture over thirty days old. It is our contention that the best results are only obtainable through the use of fresh, virile culture.

We are breeding the best commercial nitrogen culture on the market today and we are in no way competing with cheap Eastern cultures. In selling Westrobac, we are selling to our customers the very best.

Immediately upon reading this page consult us with regard to your requirements for the season that you may place your order for delivery about your time of planting. Fresh bacteria will then be made to your order at the time required.

A & M Greatest Soil Renovators



Alfalfa
See page 70

Vetch
See page 67

Melilotus Alba
See page 68

NEW SCIENTIFIC DISCOVERY

GRAIN FARMERS READ THIS

Less Seed and Harvest More Grain

For fifteen years or more leguminous crops have been increased by the application of nitrogen bacteria; but this bacteria could not apply to non-leguminous crops.

Now a method has been found by which grain and other non-leguminous crops can be benefited by this bacteria.

By the simple method of planting inoculated Vetch seed with your winter crops—wheat, barley, oats and rye, 20 pounds of Barley with 30 pounds of Vetch will produce more barley grain, more hay and in addition Vetch seed enough, the sale of which will more than pay for seeding the entire crop and leave enough seed for subsequent plantings. Try it, others have done it.

Credit must be given the Western Soil Bacteria Company for this discovery and proving it beyond a doubt by demonstration. Therefore if your soil is sandy or adobe or any intermediate stage, sow Vetch with your grain, whether for hay or for seed it will double your yield and improve the soil for the crop to follow.

Another method by which to increase the yield.

By intercropping beans or other legumes with tomatoes, corn, cotton or other field crops, also squash, egg plants or other garden crops.

Another method of getting results from the nitrogen of legumes is the rotation of crops.

It is now well established that barley following beans, yields 25% more grain or hay than formerly. Likewise will any other crop be benefited that follows a leguminous crop.

Scientific Farming Pays A farmer in Stanislaus County planted 20 pounds of barley and 30 pounds of inoculated vetch seed per acre and harvested 36 sacks of barley per acre. A buyer happened along and bought this ranch at \$300 per acre when he could have bought the adjoining ranch at \$200 per acre on which the owner has sowed 100 pounds of barley seed alone with the results that the crop barely paid for harvesting.

Scientific farming pays if practiced by a practical farmer. But the study alone of scientific farming cannot make a practical farmer. It requires experience and a great amount of hard work guided by common horse sense.

Read Campbell's Progressive Agriculture. Price \$1.10 postpaid.

The sowing of nitrogen-gathering plants for green manuring has become popular because of the excellent results attained and because of its cheapness as a fertilizer that its use is almost universal not only for orchards, but for fields, particularly where melons and potatoes are to be planted.

If your land is sloping, you need a cover crop to prevent eroding during the rainy season.

If your land is lumpy and dry, lacking life, it needs humus and nitrogen.

If your soil is sandy and fails to retain moisture, it lacks humus and nitrogen.

If your soil is of clay and bakes hard and crusts readily, it needs humus and nitrogen.

If you have just taken up a homestead, your soil is new and not in condition for general cropping. Therefore you want to do the best thing you can to put the soil into good chemical and physical condition as quickly as possible. To do so, plow just as soon as you can after the first rain of the season and harrow soon after each rain until ready to plant. During fall or early spring, plant hardy legumes for pasture and green manuring to be plowed under for a summer crop, plant Melilotus, Burr Clover or Vetch. If for a permanent pasture, plant alfalfa. These are all nitrogen-gathering crops and will enrich your soil with nitrogen and humus, but to get the best results inoculate the seed with Westobac.

If your planting is delayed until spring or summer, plant Cow Peas, either Whip-poor-Will or Black Velvet.

Vetch For many years was considered the best legume for planting in orchards during the rainy season. It is only because Melilotus Indica is a little hardier that Vetch is now second place for that purpose; but Science has discovered a new use for Vetch. It is true that Oats have long been planted together with Vetch for the purpose of supporting the Vetch that it may be easy to harvest. Now the new discovery is that Vetch be planted with oats, wheat, rye and barley in order that the grain will be fertilized by the Nitrogen gathered at the roots of the Vetch thus greatly increasing your crop of grain, or if grown for hay it doubles the yield. Twenty to thirty pounds of grain sown with twenty pounds of Vetch per acre will yield more grain than sixty pounds of grain per acre if sown by itself.

Per lb. 25c postpaid. Write for quantity price.

A certain market gardener in the east made the statement at a gardener's convention that "For twenty years he intensively farmed the same plot of ground without fertilizing." In explanation he said that immediately after he completed the last cultivation he sowed Vetch, which made a good growth until frozen. He then plowed it under, thus putting the ground in excellent condition for spring planting. Scientific farming pays.

Soil Renovators Suitable for Winter Planting

Scarcely more than ten years have passed since these two valuable clovers were considered as weeds to be despised. Their value is incalculable because they are supplying the deficiency in stable manure, giving better results with less expense.



(Sweet Clover) (Bokara)
Melilotus Alba

Melilotus Alba

This is a valuable addition to the farm as a forage crop. When quite young, it may be pastured or cut and cured for hay. This should be done just before the bloom appears. It is harder than alfalfa, more drought-resistant, and better for renovating the soil. It may be cut twice the first season and three or four times the second season, yielding 2500 to 3000 pounds of hay each cutting. It is as easy as alfalfa to eradicate, is biennial. Hence it must be seeded every second year. On account of its hardness to resist extreme cold, heat and drought it is grown largely in the middle west for pasture. It is highly recommended by the department of agriculture.

Melilotus Alba could reclaim all that waste of alkaline land lying east of Clearwater and afford good grazing while the land is being made valuable. On the beet ranch of the Montana Land Company just east of Hynes, was planted last year twenty acres to **Melilotus alba** with such gratifying results that this year they planted five hundred acres.

Write for price.

21 Reasons for Planting Melilotus Alba

1. It is not a weed.
2. Like alfalfa it is rich in protein.
3. Will not bloat cattle or sheep.
4. Equal to alfalfa for pasture.
5. Is a great milk producer.
6. Furnishes early spring pasture.
7. Contains more protein than red clover.
8. Fits well in the crop rotation.
9. Is a great soil enriching crop.
10. Better than any of the common clovers as a green manure crop.
11. Is a valuable plant for honey bees.
12. Prepares the soil for alfalfa.
13. Roots are soft and give no trouble in plowing.
14. Roots being tender become inoculated more readily than alfalfa.
15. Never damages cultivated crops.
16. Its roots decay rapidly, adding much nitrogen and humus to the soil.
17. Grows and will produce a crop in all parts of the United States.
18. Seeds freely in both humid and dry sections.
19. Sweet clover prevents erosion.
20. Will grow under conditions where clover and alfalfa fail:
 - (a) On land too low, too wet, or too alkaline for alfalfa;
 - (b) On land too hard and compact for alfalfa;
 - (c) On soil too poor for alfalfa, especially where there is lime.
21. It is immune to nematodes.

Now read again these twenty-one reasons for planting **Melilotus Alba**, and see wherein it suits your particular case.

For information concerning **Melilotus Alba** (Sweet Clover) write United States Department of Agriculture, Washington, D. C., for Farmers' Bulletins No. 797 and 829.



Melilotus Indica (yellow bloom)

Melilotus Indica

For information concerning **Melilotus Indica**, write University of California, College of Agriculture, Berkeley, Cal., for Circular 136.

Melilotus Indica was introduced by us in 1909, has now become recognized as the legume best adapted for green manuring in the orchards of California, because it may be planted late in the fall after all crops have been harvested, will grow all winter with only the season's rainfall.

It prevents erosion during the rainy season, is easily plowed under, is richer as a fertilizer and if allowed to stand until July will prevent much of the June drop.

Melilotus Indica is the best legume with which to build up your soil during the rainy season for the summer crop to follow, particularly potatoes and melons. Write for price.

Read what Mr. L. B. Doan of Burbank tells that four acres planted to potatoes without fertilizing, he harvested forty sacks per acre. He sowed **melilotus** on this four acres during September. Plowed it under in March and ten days after plowing he again planted to potatoes and harvested 165 sacks per acre. He sowed **Melilotus** last fall.



Velvet Bean
(See next page).

SOIL RENOVATORS FOR SUMMER GROWING

Velvet Bean This bean has long been popular in the south as the best soil renovator, best for summer grazing, or cut and dried for winter forage for horses, cattle and hogs. Thousands of acres are now grown for the bean which is ground into meal for food for all kinds of stock.

It will yield far more tonnage of green forage, and more tonnage of seed beans than any other Cow Pea.

It will also add more tonnage for green manuring than any other Cow Pea. Mr. T. J. Walker of San Fernando planted several acres to try them. One glance at the field would convince anyone of the truth of the above statement. The seed is large and requires about forty pounds to plant one acre.

The advent of early-maturing varieties of velvet beans has resulted in an almost phenomenal increase in the acreage of this crop in the southern United States. For the year 1917 it was estimated that there were more than 6,000,000 acres of Velvet beans, mostly grown along with corn, in seven states in the cotton belt. It is safe to say that this is five times as great as the acreage of 1916. Alabama, Florida, and Georgia have five-sixths of the Velvet bean acreage of the South and harvest as dried beans over 60 per cent of their crop. The Velvet bean meal industry has developed rapidly, and this furnishes a ready market for the beans. The acreage planted in 1917 required at least 93,000,000 pounds of seed.

Sesbania (Native Hemp). This is nothing new to Southern California for it is a native legume growing in the Colorado River basin. A field of mature Sesbania resembles a field of mature mustard bearing pods similar but much longer than mustard.

It is an ideal summer crop to grow in Coachella, Imperial and Palo Verde Valleys for green manuring. With sufficient moisture to start growing in mid-summer, it will produce an abundance of foliage to plow under. This is the wild hemp that is grown largely in Imperial Valley for fiber. The seeds are extremely rich in protein and as valuable as cotton for the oil and fertilizer.

Broad Windsor Bean Sometimes called Horse Beans, grows upright on a single stem bearing a profusion of large well filled pods. The roots are enormously productive of nitrogen. It will withstand 28° temperature; therefore, may be planted as late as September for best results as a winter cover crop. **Per lb. 25c postpaid.** (Write for quantity price.)

Mr. E. H. Mann of Oneals says, "The Broad Windsor Bean in my trial last year proved so much better than anything else that I have tried, that it seems it is just what I have been looking for the last seven years to grow on poor winter-wet but summer-dry soil."

Whip-Poor-Will Cow Peas

This Southern Cow Pea has proven to be very satisfactory in this climate. It is a summer forage crop, or just the thing to grow in the late summer to plow under to enrich the soil for a crop of winter vegetables. **30c per lb., postpaid.** Write for quantity price.

Soy Beans

(See page 20.) These are wonderfully valuable as a soil crop because of their nitrogen gathering propensities. For Green manuring they should be plowed under when the pods are set. **(Per lb. 30c postpaid.)** Write for quantity price.

Virginia Peanuts

(See Page 47)



Whip-poor-will cow peas

DRY FARMING PAYS

With the present scientific method of dry farming as it is practiced today, every acre of land planted to winter or summer crops can be brought to yield 100% more than by the old method of scratching the surface. This assertion has been proven repeatedly, and practical recognition of this fact has done much toward feeding our allies and alleviating the suffering of neutral nations. This was brought about when Mr. Thos. D. Campbell, the author of "Scientific Dry Farming," contracted to plant 200,000 acres to wheat on the arid lands of Montana.

This method of dry farming is scientifically pursued on all large bean ranches in California, and by all large beet growers throughout the southwest.

If dry farming is a practical success for the large grower it must be equally practical for the small grower. But the small grower is frequently too busy with his diversified farming to do the work necessary to properly prepare the soil for dry farming and therefore half of a small ranch is often unproductive.



This picture illustrates what can be done on soil that "Old Timers" for years have allowed to lie idle, believing it worthless without irrigation.

Mrs. Muriel Edwards of Santa Ynez, Cal., writes: "The taller specimen of Sudan Grass was grown on a clay loam. The shorter one on very gravelly loam. The soil for both the corn and the Sudan grass was prepared as if for beans. I also have some wonderful barley that volunteered in the corn field. None of these crops received any irrigation, not a drop of water, only intensive cultivation."

This land was supposed to be worn out and worthless. What this Farmerette can do, others can do. This Farmerette with intelligence and determination has by this demonstration enhanced the value of all lands in that mountainous section, and increased its productiveness 100%.

What has been done you can do. Invest \$2.60 in a book—"Campbell's Scientific Dry Farming," offered on page 8: read it and practice its teachings, thereby increasing the value and productiveness of your land.

An Invaluable Book for the Arid Farmer is
"CAMPBELL'S PROGRESSIVE AGRICULTURE"
Price \$1.10 postpaid.

The following are some of the subjects: Farm Possibilities; Preparation Before Seeding; New Problem in Corn Culture; Time of Planting; Does Tillage Increase Fertility?; Summer Tilling for Wheat; Amount of Seed per Acre; Disking After Harvest.

Mr. H. D. Campbell practiced dry farming and reduced it to a science. His book entitled "Progressive Agriculture," is his latest publication in this educational work.

Alfalfa

Alfalfa Lucerne. This may well be called the King of Forage Plants; all stock relish it; may be grown in nearly every state in the Union and it is essential to the best interests of every rancher, small or large. To the "Little Lander" with a few chickens and rabbits, as well as to the large rancher with hundreds of cattle, horses and hogs. It may be cut and fed green; judicious grazing does not injure it. If mixed with sorghum in the silo, it improves the ensilage and as dry hay it is unexcelled. It is

leguminous and, therefore, a soil renovator.

Cultivation is very simple, the essentials being well drained soil, good grading, thorough sub-soiling, thorough watering and judicious harrowing; also proper fertilizing, especially on new ground. (Write for prices on all varieties.)

Mr. C. Sebelius of Gardena, California, planted six acres to smooth Peruvian Alfalfa, and cut it six times the first year selling this crop for \$500. The second year he got \$120 for the first cutting and \$185 for the second cutting.



Mr. C. Sebelius cutting his Smooth Peruvian Alfalfa

Certified Alfalfa Seed Pursuant to our policy of protecting the customer wherever possible we have gone to the expense of having our fields of Hairy and Smooth Peruvian Alfalfa inspected by the County Agricultural Agent. Every sack of seed is sealed by him with a tag which certifies it to be the variety indicated on the tag. No matter where you buy it look for the tag on every sack you buy. **Write for price.**



The Tag That Certifies

Chilian This variety has proven so entirely satisfactory to everyone for more than forty years that nothing better was looked for and is indeed now so thoroughly satisfactory that many will hesitate to believe that any variety of alfalfa can be better, therefore we have an ample supply of the Chilian seed.

White Clover For lawns. (See page 81.)

Smooth Peruvian Introduced by us a few years ago. Our claim to superiority over the Chilian was in the fact that it was hardier, yielding one more cutting each year and more each cutting.

Being hollow stemmed it is softer and eaten entirely by stock. The leaves adhere to the stem after it is dry, adding greatly to its merit.

All of these claims held good and the smooth Peruvian rapidly grew in popularity and is now preferred by many satisfied growers.

Hairy Peruvian Recommended by the Department of Agriculture as being more hardy than the smooth Peruvian and because it is more hardy, it has a longer growing season and will yield more tonnage per acre per year, and on that account is more valuable in some localities than in others.

Professor F. W. Mally County Farm Advisor of Laredo, Texas, has discovered and proven his discovery that this variety is immune to the Nematode. This adds much to its value. Professor Mally states also that smooth Peruvian is more immune to the Nematode than the Chilian.

Burr Clover The native Clover, and one of the best nitrogen-gathering crops and very satisfactory for orchards. There is an increasing demand for Burr Clover, and the seed is very scarce and hard to obtain. It is the very best cover crop for poor or dry land, as it needs but little moisture. If your grazing land lacks native grasses, plant Burr Clover; it re-seeds itself, starting to grow with the first rain, and continues growing far into the dry season. **Per lb. 35c postpaid.**

Alsike or Swedish Clover This is one of the hardestiest varieties known. It is perennial and does not winter kill. It will do better on moist land than any other variety of clover, and is suitable for either hay or pasture. When sown with other grasses, it forms a thick undergrowth and greatly increases the yield. Write for quantity price. (Price per lb. 30c) (by mail 40c).

Lespedeza or Japanese Clover (If interested, write the Department of Agriculture, Washington, D. C., and ask for Farmer's Bulletin No. 441.)

Lespedeza is a summer annual and grows from Central New Jersey, through all the southeastern states and Texas, and grows luxuriantly in the southwest under irrigation. It is a summer-growing crop, re-seeding itself. Lespedeza grows readily with Bermuda Grass and is just the thing to grow in meadows where Bermuda abounds. No danger of bloating stock that feed upon it.

Lespedeza and oats make an excellent combination, sowing the oats in the fall and the Lespedeza in March. After the oats have been harvested, the Lespedeza will yield two tons of hay per acre. It cures readily, drying in one day, and it is an excellent crop to rotate with cotton or corn. Sow 15 to 25 lbs. per acre. (Price per lb. 35c postpaid.) Write for quantity price.

Grasses

(See Back Cover).

The war conditions have brought about a realization of the enormous waste of resources that passed unnoticed or if noticed little heed was given them.

One great source of waste exists in the barren condition of what are called desert lands; unirrigated lands, hill sides, swamp lands, alkali soils, and many other conditions.

We have given this much study and have concluded there is somewhere some good palatable grass suited to all these conditions so that if sufficient seed were obtainable these barren places could be made to support countless herds of cattle, goats and sheep.

After several years of application to this subject we have found a number of grasses and millets that are now growing on ranges and in places such as we have described. We do not have seed of all varieties in commercial quantities, therefore we offer ounces and pounds of various grasses and millets that have proven practical for the purposes and conditions described.

Therefore if you have any barren lands, or acreage that is unproductive, read carefully these pages devoted to grasses and clovers, and let no acreage be wasted.

If you have any untillable lands describe the condition to us, we will recommend some forage plant suitable to that condition.

If interested in any one of these grasses write for further information.

Pampas Grass (See figure No. 1 on back cover).

Pampas Grass is quite hardy, will endure zero temperature. It is not prized for forage but only for the plumes which are very ornamental.

Alfilaria (*Erodium Cicutarium*). Cardinal points: For the Range—Any kind of soil—endures little alkali—native in Southwestern United States—Foliage disappears with extended drouth but roots survive and with sufficient moisture to start growth it will mature seed. With extended rainy season the growth of forage will cover the ground twelve inches or more—the forage is succulent and relished by all stock—it seeds freely and is a valuable range grass for winter and spring on desert or mesa; meadow or hillside—it requires little or no preparation of soil for seeding—rarely cut and dried for hay—has grass roots—easily eradicated. Five pounds of seed is sufficient to sow one acre broadcast. (Per lb. \$1.00 postpaid). Write for quantity price.

Australian Salt Bush (*Atriplex semibaccatum*).

See No. 15, back cover. Cardinal points: For range near the coast or interior lowlands where fogs are of frequent occurrence—any kind of soil—endures much alkali—thrives with a minimum of moisture—very succulent during winter, spring and early summer, then it is relished by all stock—becomes parched by heat in late summer, then it is less palatable to stock, but they will thrive if forced by hunger to eat it—it seeds freely. Requires no preparation of soil for seeding. Cannot cut and dry as hay—has one tap root—easily eradicated. (Per lb. \$1.00 postpaid). Write for quantity price.

The best way to get a stand of Salt Bush is to sow broadcast the seed on sod or stubble during the months of January and February. Five pounds of seed will sow one acre broadcast.

SALT BUSH has made a new record which establishes a value. Heretofore, this has not been appreciated although for years we have tried to make plain that its principal use was for sheep and goat pasture.

Mr. Maurer, who has large interests in the San Clemente Islands, and maintains large herds of sheep and goats, states that were it not for the several hundred pounds of salt bush he purchased from us several years ago he would, undoubtedly, have lost his herd. If you have any waste land sow Salt Bush; it may be depended upon when all else fails.

Bermuda Grass (*Cynodon dactylon*).

See No. 2, back cover. Cardinal points: For damp meadows—any kind of soil—endures much alkali—good only for summer pasture—is dormant at a temperature of 35 degrees Fahrenheit—an excellent meadow range relished by all stock—it spreads and seeds freely—requires no preparation of soil for feeding—seldom cut and dried for hay.

Is very difficult to eradicate—can be propagated by transplanting joints. Ten pounds of seed is sufficient to plant one acre broadcast. (Per lb. 75c postpaid). Write for quantity price.

Rhodes Grass (*Chloris virgata*).

See No. 12, back cover. Cardinal points: For any kind of soil—endures little alkali—excellent for permanent pasture in meadow or on mesa or cut and dried for hay—about as hardy as alfalfa—stools and seeds freely—may be transplanted from joints or divided stools—is easily eradicated—has proven very valuable in Imperial Valley.

Per lb. \$1.00 postpaid. Write for quantity price.

Mr. J. J. Thorber of the Arizona Experiment Station, says: "I have had Rhodes Grass under observation for several years. It succeeds beautifully in our heavy clay loam soils and even in sandy or gravelly soils. Its growth is marvelous under our conditions." It withstands to a remarkable degree extremes of moisture and drought.

Prof. Maiden, the Government Botanist of Australia, says of the Rhodes Grass: "It is ideal for ensilage. It yields five tons per acre."

"It smothers Nut Grass. It is a good grass for green food. It is an excellent grass for hay. It is a rapid grower. It has fibrous roots so that it is not likely to be a pest, since it can readily be eradicated if desired. The seeds germinate readily. It runs six to eight feet, and then grows erect. It is very palatable to stock. If it has any objectionable features I do not know of them, and, therefore, I have recommended experiments with it in many parts of the State. Experiments that have already been made, prove that it will stand the fierceness of frosts, and the seed has not been found at all injurious to stock; the animals like (Per lb. \$1.00 postpaid). Write for quantity price.



Napier or Elephant Grass

Napier Grass (*Pennisetum purpureum*).

See No. 8, back cover. Cardinal points: A recent introduction from Australia. An experiment in Antelope Valley demonstrates—Planted in October, 1917, grew 30 inches—foliage killed by frost—started growing with warm weather—grew four feet tall until checked by drouth and was cut and dried for hay—roots survived drouth of summer 1918—started growing with the moisture of a summer shower in September and continued growing until again checked by frost—thrives on any kind of soil—endure little alkali—grows a cane like millet twelve feet high—very succulent when young—should be cut and dried for hay when forty to fifty days old—roots like millet—easily eradicated—propagated by planting joints of cane like potatoes three feet apart in rows four feet apart—seeds freely.

We have no seed, therefore we offer the joints. One joint in one season will increase by 1000. (Per doz. \$1.00) (Per 100 joints \$5.00) postpaid.

The following is from Mr. E. J. Spencer:

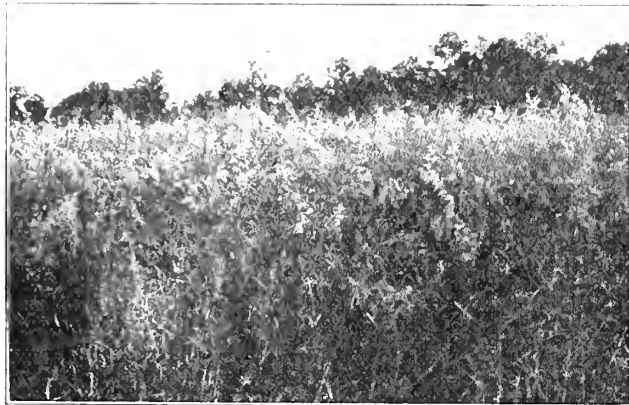
"It is the fastest growing perennial grass I have ever seen, especially after it has been planted one year and the roots are thoroughly established. It produces a stalk somewhat like cane. It grows readily from the joints of the matured stalk and multiplies wonderfully in stooling out, often being from 50 to 100 stalks in one cluster. One joint produced me over 1500 joints to plant the first year.

"On May 22nd, 1918, I cut down the matured stalks to the ground and in thirty days it grew four feet high and so thick that, from an estimate I made of it, it would yield 30 tons of green feed per acre or 7 tons of dry feed per acre. This is the right time to cut for hay, as it is now a mass of tender leaves, the joints having not yet formed. It can be cut as often as alfalfa and will produce five times the amount of feed.

"On July 21st, 1918, just two months after the matured stalks had been cut down, I again made an estimate of the growth and it measured a little over 7 feet high, which is the right time to cut for silage, and according to an estimate made by Prof. Kennedy, head of the Forage Crop Investigations at the University of California, at Berkeley, California, which was a very conservative estimate, the Napier Grass would turn off the enormous yield of 60 tons of green feed per acre or 15 tons of dry feed per acre in the 60 days' growth. Prof. P. B. Kennedy also stated that the future outlook for a crop showing such a remarkable tonnage, especially one with the high feeding value possessed by Napier Grass, is almost inestimable, and according to an analysis made by Prof. C. V. Piper, Chief of the Forage Crop Investigations at Washington, D. C., it tested much better than green corn in nutritive value."

GRASSES—(Continued)

Natal Grass (*Tricholaena rosea*). See No. 11, back cover. Cardinal points—A recent introduction—a local experiment indicates it will grow in any kind of soil—endures little alkali—stools and seeds freely—seed stems grow four feet high—may be propagated by transplanting rooted joints or divided stools—is grown extensively in Florida—is about as hardy as millet—valued highly for meadow pasture or cut and dried for hay—the roots survive drouth and mild winters—easily eradicated. If the seed is sown about May 1, the first crop of hay will be ready for harvesting about July 15. Natal grass requires about eighty to eighty-five days from seeding to maturity under favorable conditions. Five pounds of seed will plant one acre broadcast. (Per lb. \$1.00) postpaid. Write for quantity price.



Natal Grass

Teff Grass (*Eragrostis Abyssinica*). See No. 14, back cover. Cardinal points—Not particular as to soil—endures much alkali—valuable range grass under trees, on hillsides—an annual—seeds freely—ideal for meadow or mesa—for summer and fall pasture. One packet of seed will grow enough plants, if transplanted, to set $\frac{1}{4}$ acre. This would produce two crops of seed which would be sufficient to sow twenty acres. Per pkt. 25c.



Para Grass the second season without irrigation, grown in a vacant lot in the City of Los Angeles

Para Grass

See No. 9, back cover. Cardinal points—Excellent for swamp or overflow lands or with irrigation—any kind of soil that has sufficient moisture—endures little alkali—roots survive winter and months of drouth—foliage is dormant in winter but will grow three or four feet high in the spring until checked by drouth—with irrigation grows rampantly, may be cut and dried for hay every four weeks—it is relished by all stock—seeds not at all in this climate—is propagated by trans-

planting joints or stems—difficult to eradicate from damp land. There is no seed available. We offer stems. (Per 100 stems 75c postpaid) (1000 stems \$4.00 f. o. b. here).

Dr. Wm. R. Livingston of Oxnard, California, writes: "I have many hundreds of acres of Para Grass in Mexico, where we consider it the most valuable forage plant. I have worked 200 mules at a time, feeding them freshly cut Para, as roughage with some corn. I know of no other green plant that will sustain working animals; the amount of forage per acre is enormous."

Giant Wild Rye Grass (*Elymus condensatus*). See No. 7, back cover. Cardinal points—Not particular as to soil—endures much alkali—grows luxuriantly in meadows, along a sandy wash, on hillsides with brush, on rich loam, on a clay mesa or amid the sage and greasewood—will endure zero temperature—with only slight precipitation of rain it will mature seed which affords food when all else has disappeared or has been covered with snow. Per lb. \$1.00. Write for quantity price.



Giant Wild Rye

Smilo Grass (*Oryzopsis millacea*). See No. 13, back cover. Cardinal points—Not particular as to soil—a hardy evergreen perennial—drouth-resistant bunch grass—thrives on dry hills, among rocks and brush and under trees—it will grow under all conditions any time of the year on high cliffs or on decomposed granite banks, but is most luxuriant and productive when cultivated on good soil.

Stools and seeds freely—may be propagated by transplanting divided stools. It is an ideal range grass for Southwestern United States. One ounce of seed will grow sufficient plants to set one acre.

Per (pkt. 10c) (oz. 50c).

Paspalum Dilatatum See No. 6, back cover. Cardinal points: Any kind of soil—endures little alkali—excellent for permanent pasture—marsh or mesa—grows winter and summer with moisture—excellent for hay—may be cut every four or five weeks—foliage dies with drouth but revives with less moisture than any other grass—stools and seeds freely—may be transplanted from subdivided stools—it has been tried and proven in this section to be one of the best of grasses for permanent pasture in meadow or on mesa where it must depend solely upon the season's rains. Paspalum planted on ridges between alfalfa checks. The first season only demonstrated it would grow throughout the winter. The second season proved its worth. It had seeded to a wonderful degree. The seed grew, taking root among the weeds and devil grass, choking out everything in its way. The dense tufts of grass made a thick mat capable of supporting the cattle. The stock relish it fully as well as alfalfa. It makes a fine hay free from any wood. It is as easy to eradicate as timothy or any other bunch grass. Ten pounds is sufficient to sow one acre broadcast.

Per lb. \$1.00 postpaid. Write for quantity price.

Orchard Grass Price—Per (lb. 50c prepaid). Write for quantity price.

Italian Rye Grass Excellent for damp land; grows rapidly; makes good hay, but is at its best in moist low lands. It grows continuously until allowed to run to seed. Dairymen having moist land should avail themselves of this valuable pasture. Price—Per lb. 35c prepaid (100 lbs. \$10.00) f. o. b. here. Write for quantity price.

Australian Rye Grass Very similar to Italian Rye Grass, but will resist more drouth. It survives the dry season and starts new growth when the rains set in. Price—Per (lb. 35c prepaid) (100 lbs. \$10.00) f. o. b. here. Write for quantity price.

Timothy Does very well in moist land and will mature a fine crop of hay in 110 days from seed. We do not recommend it for Southern California. Per lb. 25c prepaid. Write for quantity price.

GRASSES—(Continued)



The Wonder Forage Plant

The crop for the silo 75 tons of silage per acre

The Wonder Forage Plant

A New Forage Plant

Surely a boon to Dairymen and Stockmen

This valuable forage plant first appeared during the summer of 1916 on the ranch of Mr. Benedict in Riverside County. Mr. Benedict realized he had something extraordinary; he therefore saved all the seed from this one plant and in 1917 grew a small plot that further convinced him and his neighbors that he had a wonderful forage plant. The seed from this plot was carefully harvested and in 1918 a field of ten acres was grown. This field by a roadside has attracted the attention of all persons who passed. It has been visited by government experts who have given favorable expression as to its merits. For want of more exact history we express the opinion that it is the result of a cross pollenization between Amber Cane and Sudan Grass because it has the appearance of gigantic growth of Sudan and the seed is very similar to Amber Cane. It stools from six to forty full sized stems the thickness of a thumb and smaller. When the main stems mature, separate branches grow from each joint forming other seed-heads. We exhibited at the Liberty Fair one stool with thirty-eight main stems and one hundred and thirty-two seed heads and more stems growing from the base.

The stems are succulent and sweet as saccharine cane, not dry as non-saccharine cane, therefore it is as good as sorghum for dairy cows. Stock will eat every particle of it and when shredded or cut for the silo it is ideal silage.

We are undecided whether to class it as a grass or a sorghum but incline toward the latter because of the nature of the stalk, although it has a seed panicle like Sudan. The seed we offer is of the third year's selection from the original hybrid and the stools may not be uniform but the smallest stool will greatly exceed any sorghum. It is capable of further improvement by seed selection from the best stools.

The stools will grow, on good soil, 12 to 16 feet tall with an indefinite number of canes, because they continue to

come throughout the season which would add enormously to the value of this crop for silage and pasture.

Judging by other forage crops that are well known to yield 40 tons silage per acre, this Wonder Forage Plant should easily yield 100 tons silage per acre. It may be cut three times during the season.

Mr. D. W. Lewis, Pres. and Mgr., Riverside County Title Guaranty Co., writes:

"My friend Mr. C. H. Benedict has originated a wonderful forage plant which resembles Sudan Grass but is as much ahead of Sudan Grass as that grass is ahead of ordinary grasses. I saw his field recently and though growing on sandy soil the grass had stooped wonderfully and each crown was composed of many stalks of great height and covered with many long slender leaves. This had been irrigated. A crown standing alone and grown without irrigation was also very thick and above my head, while much of the irrigated growth was from 12 to 16 feet high. As a forage and silage plant I think it is the greatest I have ever seen or read about. I hope to grow considerable of it myself this season."

Mr. B. B. Bush of Riverside, writes: "This I believe is the most productive and best silo plant, producing one hundred tons per acre, (conditions being right). A splendid fodder feed, stalks small heavily bladed from ground to top, drilled in rows three feet apart, 16 inches apart in the row, good soil, irrigated will grow 12 to 17 feet high, one seed producing from 15 to 40 stalks.

It will stand cutting every month, with irrigation will keep stooling and shooting getting thicker and finer.

One cutting September first was cut again October seventh, being four feet high, and shown at the Riverside County Fair.

Every Dairymen should try a few acres this year."

The supply of seed is limited. (Oz. 10c) (lb. 75c) (10 lbs. \$5.00) postpaid; (100 lbs. \$40.00) f. o. b. here.

CERTIFIED SUDAN GRASS SEED

All our seed of Sudan Grass is certified by the horticultural inspector to be free from Johnson Grass.



Sudan Grass

Cardinal points—Not particular as to soil—endures much alkali—an annual—planted during April first cutting in sixty days may yield four tons of dry hay per acre and three to four tons may be cut each thirty days until October.

Twelve pounds of seed is required to plant an acre in order to produce hay of fine quality.

The seed may be planted with a Superior beet drill or other drill with extra plate or broadcast.

Sudan Grass thrives with excessive moisture and endures extreme drouth.

The foregoing points are not all the best features of this new grass. In the months of August and September, when all other grass is dry, then is the time that Sudan is most valuable for fall pasture for cattle and hogs, and by having it fenced off in small lots, it will yield food for five times as much stock as any other grass will, without irrigation. For milch cows and hogs there is no better or more abundant pasture than Sudan. We believe it will solve the hay proposition as nothing else can or will do in this climate.

Sudan Grass is ideal for growing with the Whip-poor-will Cow Peas. The stem is stiff enough to support the vines, and the mixture makes a better balanced ration for the stock. It is a good silage.

Per lb. 50c postpaid. Write for quantity price.

Field Corn

About Corn.—More than 2,000,000 bushels of corn is produced in California annually, yet this is scarcely half enough to meet the local demand. This condition ought not exist because there is ample acreage where corn may be grown under irrigation, and near the Coast where it may be grown without irrigation. Where corn cannot be irrigated, plant the "King of the Earliest" variety.

Fortunately, Southern California had no failure of its crop of corn, but the greater part of the acreage was cut for the silo, and the high price of corn for feed and mill use combine to make seed corn scarce. We have endeavored to provide for an ample supply, but some favorite varieties will be inadequate to meet the demand.

We are listing only those varieties that have been tried here and have proven highly satisfactory. Prices of all varieties of field corn subject to market change. (Per lb. 15c postpaid) (10 lbs., 75c) (f. o. b. here.) Write for quantity price.

White

Orange County Prolific.....	110 days
Eureka Ensilage.....	110 days
Champion White Pearl.....	110 days
Wisconsin White Dent.....	110 days
Iowa Silver Mine.....	109 days
Hickory King.....	110 days

Yellow

Reid's Yellow Dent.....	109 days
Golden Beauty.....	90 days
King of the Earliest.....	90 days
Pride of the North.....	90 days
Minnesota King.....	100 days
King Philip Yellow Flint.....	90 days

Read This.—When grown without irrigation, our Pride of the North and King of the Earliest varieties are the most dependable. They are always a sure crop because of their extreme earliness, and they surprise the grower because of the great yield of grain.

ORANGE COUNTY PROLIFIC

For Ensilage as well as Corn

This White Dent variety is strictly a California product, and will surpass in amount of fodder or grain any other variety we have ever offered. It will readily yield one hundred and ten bushels of grain per acre, and when grown for ensilage it will yield more than thirty tons of ensilage per acre. 10 lbs., 75c, f. o. b. here.

Eureka Ensilage This variety has been grown around Norwalk and Artesia for several years. It is not only prolific of large ears of white dent corn, but it is justly famous for the enormous tonnage of silage it produces. 10 lbs., \$1.50, f. o. b. here.

Mexican June The corn for the arid southwest. When the white man was a pioneer in Arizona and New Mexico, he

tried to grow corn but failed. The country and climate was condemned; corn could not be grown, but thanks to the good work of the various state and federal experiment stations, we have the Mexican June. This has been bred up by years of selection from seed which has existed among the Indians from time antedating the Aztecs. Imperial Valley growers realized its merits ten years ago. In Arizona, New Mexico and Texas, it is now grown where no other variety will thrive.

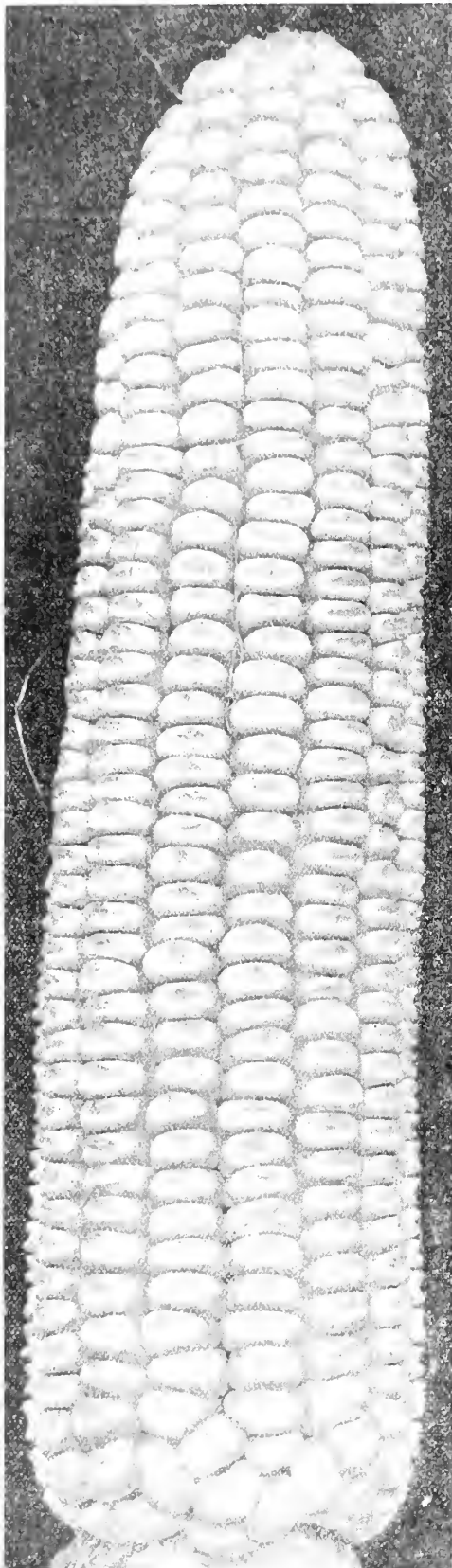
Mr. Schultz, of Orange county, says: "A friend gave me a few ears of Mexican June corn; I planted it on sandy soil, expecting to irrigate it, but could not do so. I thought it would die and did not even expect fodder, but see for yourself; good, big ears that would yield fully a ton of grain per acre. (10 lbs., \$1.00 f. o. b. here)."

Silage Corn

Mr. A. V. Handorf says: "Hickory King Corn is hard to beat for silage. I plant about forty



Orange County Prolific



Orange County Prolific

pounds of seed per acre and cut about 25 tons of good enough."

The Silo

Write Department of Agriculture, Berkeley, Cal., for Circular No. 138, September, 1915, by Professor F. W. Woll, also Circular No. 173; also Bulletin No. 282, issued August, 1917.

This picture is given space that it may suggest to you when you contemplate improving your homestead that you will consider your location from a sanitary point of view, thus saving you many thousand dollars worth of stock and doctor bills, besides giving health and leisure to your family.

The above picture shows scientifically up-to-date farm buildings situated on an ideal location with regard to drainage.

All storm water drains away from the house, away from the barn, chicken house and hog pen, far into the field where it will do the most good. This farmer need not worry about his stock or poultry no matter how hard it rains. There will be no pools of water about the premises to become stagnant mud holes that breed diseases for the stock and

ill health for the family.

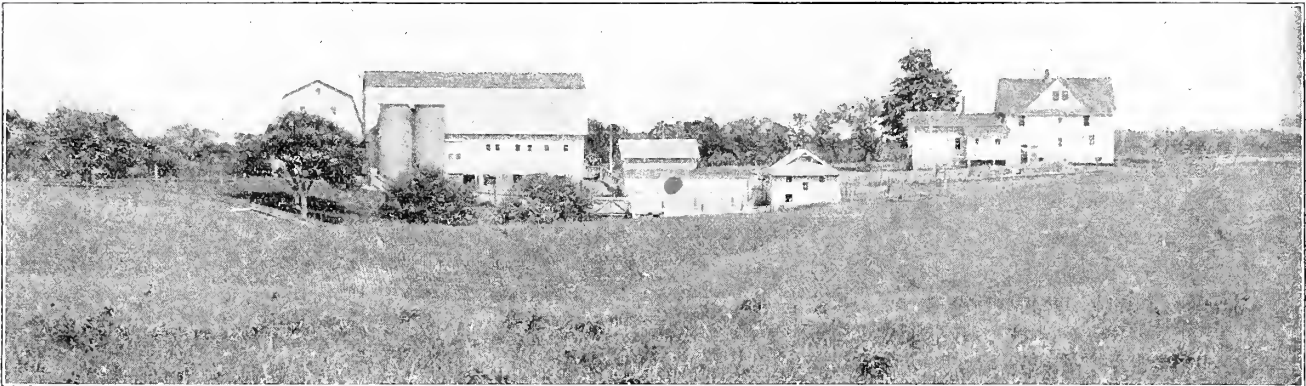
Aside from sanitary considerations this picture shows an ideal plan for farm buildings.

The house fronting the main highway; the garage a convenient distance away; the large barn built on an embankment where it will be easy to drive into the barn floor, under which the stock are comfortably stabled.

The hog pen and chicken houses are built apart from other buildings for sanitary purposes.

The large silos could not have been located at a more convenient place.

If there is no naturally drained location on your land, the Fresno scraper will do much toward making such a location.



THE MODEL FARM

The Silo A Big Money-saver. If you have ten or more head of stock, it will be profitable for you to have a silo. Therefore, if interested write at once to the University of California, College of Agriculture, Berkeley, California, for circular No. 138 (Sept., 1915), entitled "The Silo in California." It is complete in its information and after reading it you have all the information you will need, and you will at once go about building a silo. Just the size you will require, and you will know about what it will cost. This circular tells you what crops are best and what proportion of water to add; what stage of maturity crops may be cut; in short, the information in the circular is so complete you cannot make any mistake, from the building of the silo to the time when the silage is ready to feed to the stock.

BEST CROPS FOR SILAGE

Now that you have a silo you want to grow the best and most productive crops to fill the silo. Indian Corn heads the list, as recommended by the author, and we recommend the Orange County Prolific Corn as the most productive of tonnage and highest in saccharine; Hickory King follows, these varieties yielding 20 to 30 tons of silage per acre. For the silo Indian Corn should be cut when the grain begins to harden.

WHAT SILAGE IS WORTH AS A FEED

One hundred sixty-five pounds of corn silage will replace 145 pounds of shelled corn and 359 pounds of hay in producing 100 pounds of beef. These figures were arrived at as a result of eight years of feeding tests made at the Indiana experiment station, according to advices recently received at Minnesota University farm. With corn at \$1.75 silage is worth \$12.50 a ton.

THE SILO IN IMPERIAL VALLEY

Chiefly through the influence of the county farm bureau and Federal and State agricultural experts, silos and sorghums are transforming Imperial Valley pastures and grazing lands into intensive dairy and hog raising ranches. Methods of feeding stock have greatly changed during the year 1917. Dairy cattle, hogs and sheep are now largely stall fed, instead of being turned out into vast pastures unattended. The change has worked wonders with the farmers' check books.

It is estimated that more than \$8,000,000 gross was received this year by valley farmers for butter, beef, hogs and sheep. The stock industry is second only to cotton raising. County Farm Adviser Sullivan is confident that more than a million dollars will be added to this figure during next year because of the adoption of the Kansas style of feeding.

Tall silos now dot the landscape of the valley. More than three score were erected during the past three months. They were erected principally to take adequate care of thousands of acres of silage planted under the direction of the farm bureau. The silage propaganda of the farm bureau this year was directed towards the development of the sorghums, which seem more adapted to the interior valleys, with their warm summer climate.

THE SIZE OF SILO TO BUILD

No. of Cows	Pounds Required Daily	Size of Silo Needed Diam. Feet	Height Feet	Cap. Tons
6	240	9	20	22
9	360	10	24	34
13	520	10	30	47
15	600	12	26	55
20	800	12	32	74
25	1000	12	38	94
30	1200	14	34	109
35	1400	14	38	128
40	1600	16	34	143
45	1800	16	38	167
50	2000	16	40	180

Based on 40 lbs. per cow a day.

One ton of hay requires 500 cubic feet of storage space, while one ton of silage requires only 50 cubic feet.

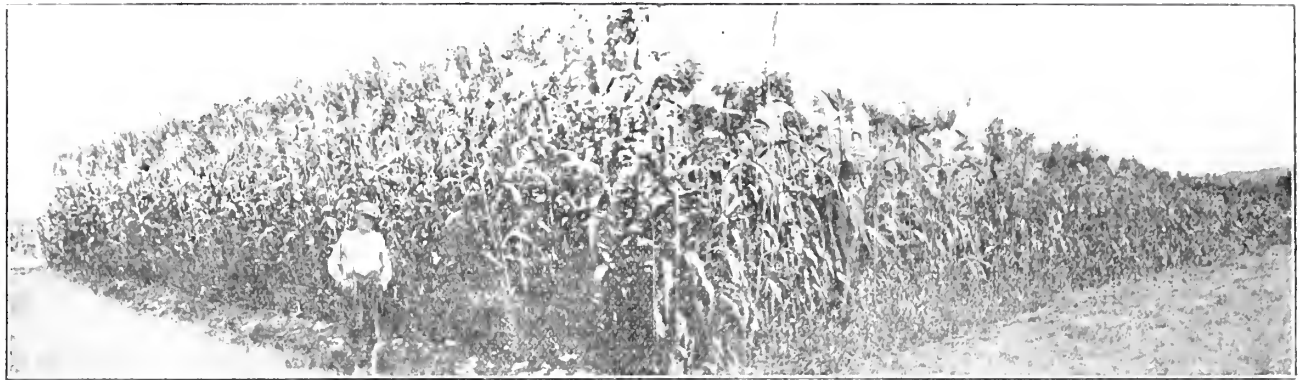
The best dairymen feed about forty pounds of ensilage, with two pounds each of bran and oil meal daily to each cow in order to secure the maximum milk production.



With these three silos Mr. Green of Norwalk, Cal., is feeding several hundred steers. The principal silage is Eureka Ensilage Corn.

DWARF MILO

One man can attend to the planting, irrigation, and cultivation of 160 acres, paying only for the harvesting and threshing. The cash outlay to grow 160 acres is approximately \$800.00. The gross returns, estimating one ton of seed per acre which sold last season for \$60.00 per ton, would be \$9,600.00. This is a very conservative estimate.



Amber Sorghum

Honey Sorghum

SACCHARINE SORGHUM OR CANE

It is usually planted in rows 3½ feet apart, using from 5 to 10 pounds of seed per acre. Grows from 10 to 15 feet high.

This kind of Sorghum is distinguished from the Non-Saccharine because it is from these varieties that syrup is made.

Read This News Item from Imperial Valley

The high cost of sugar and honey have induced many farmers to plant hundreds of acres of sugar sorghum in this vicinity to be brought to the syrup mill of Cox and Sillman. A yield of from 150 to 175 gallons per acre is reported by Mr. Sillman in Texas fields, and the gross income is from \$1.25 to \$1.50 per gallon. It is believed that in the Imperial Valley the yield may be increased.

Write College of Agriculture, University of California, Berkeley, California, ask for Circular No. 198. Concerning syrup from sorghum.

But these Sorghums are more generally grown for forage because they will thrive well with little moisture, but on good soil with irrigation will produce 30 to 40 tons of silage per acre.

Silver Tip

The Sorghum for syrup. Mr. McWilliams, a manufacturer of Sorghum syrup, residing near Norwalk, says: "The Silver Tip excels all other Sorghums in quantity and quality of cyrup. A yield of 400 gallons per acre was the average obtained from my field. It will yield 20 tons of silage at one cutting. It is later in maturity than other varieties so that only the first cutting can be used for syrup."

Per lb. 25c, postpaid. Write for quantity price.

Honey Sorghum

This variety was only recently introduced into California and at once proved to be very desirable because of the large yield of grain as well as enormous growth of forage.

It is given special recommendation in the Farm Bureau Monthly and has proven highly satisfactory to all who grew it last year. Per lb. 35c postpaid. Write for quantity price.

Early Amber

The Early Amber has been grown in California for more than thirty years and always proven entirely satisfactory. It grows twelve feet tall when allowed to mature but it stools to a wonderful extent when cut about every four weeks.

Per lb. 25c, postpaid. Write for quantity price.

A Word About Amber Cane

Mr. R. N. Atmore, of Piru, Cal., is authority for the following statement: "For more than twenty years I have planted sorghum about the first of April. About the time it is well seeded I have some hogs ready to fatten for the market. I turn the hogs into the field of Amber Cane every day toward evening. In this way they eat all they want without waste, and about the time it is all gone the hogs are ready for market. This is all the feed they get for fattening. Saves me much labor, and the exercise is healthful for the hogs. I sow one acre of Amber Cane for every twenty hogs."

If you need forage for your horses, cattle or hogs Sorghum planted about April 1st will furnish you the best feed in the shortest space of time. One half acre will feed four head of stock all summer if only enough is cut each day for one day's need. In this way one can cut continuously all summer. As much as 40 tons may be cut from one acre.

It usually yields three cuttings a season, but is should not be fed before maturing as it is liable to bloat. The sugar it contains is very fattening. Steers and hogs can be brought to prime condition with no other feed.

Address: University of California, College of Agriculture, Berkeley, Cal. Ask for Circular No. 167, also Bulletin No. 293.

WHEN TO HARVEST SORGHUMS FOR SILAGE

This year for the first time many farmers are growing sorghum for silage. The question of when to cut it is now perplexing some. The experience of farmers who have grown this crop for silage purposes is that it should be fairly mature before cutting. The stalks may look rather dry but sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acid and much inferior to silage cut at the right time.

Texas Seeded Ribbon Cane

Texas Seeded Ribbon Cane is one of the best crops that can be grown to use as ensilage on account of the enormous yield it makes per acre. Mr. Geo. L. Miller, of the 101 Ranch, states as follows: "We have experimented on a large scale with every variety of Kaffir, Milo and Sorghums. Milo Maize has done well, but the stalks and fodder has not the feeding value it should have. Sorghums seem to be the best and surest and have better feeding value than any of the other forage crops."

"Of all the varieties of Sorghums grown, there are none that can compare in yield with the Seeded Ribbon Cane. It has produced a yield of 55.98 TONS OF GREEN WEIGHT PER ACRE."

"We recommend that all farmers should plant 10 to 15 acres or as much more of the Seeded Ribbon Cane as they have stock to feed."

"Land is too valuable to get from 5 to 10 tons of silage from, when the same acres can yield 30 to 35 tons per acre with same expense. We have received these results and any other farmer can do the same." Per lb. 25c postpaid. Write for quantity price.

NOTICE

KAFIR SORGHUM

READ THIS

Wonderful for Fodder and Grain

Mr. B. F. Taylor of Los Angeles called our attention to this wonderful addition to the saccharine sorghums. He says that he harvested about 6000 pounds of grain from approximately one acre; that it is away ahead of anything else in that line both for grain and forage.

The stalks are green until frost, long after other sorghums have dried up. It excels as a pasture and makes excellent fodder. It will mature a crop of seed under conditions where other sorghum will fail.

At the United States Dry Land Experiment Station at Woodward, Okla., it out-yielded any other cane and sorghum.

ITS GREAT MERITS

The stalks are sweet. Cattle eat it down to the roots. Horses gnaw it to the last piece. Stock will leave alfalfa for it. Stock prefers it to sweetest hay. Matures earlier than Feterita. Matures away ahead of Kafir. Easily two weeks in advance of Amber Cane. Seldom yields less than 2000 lbs. per acre. Frequently yields as high as 6000 lbs. per acre. Yields three tons of hay per acre. When planted early will produce two hay crops. Ready for cutting before any other Cane. It is of dwarf growing habit. Is very stalky and a great stooler. Very nutritious as a silage. Excels Sudan and superior to white Kafir Cane for feed. Greater drought resister than Feterita. Matures with exceptional uniformity. Fields are remarkable for even growth. Branch heads keep coming up till frost. Grown from 3½ to 5 feet high. Very easy to handle in harvesting. It never lodges or droops its heads. Better seed producer than any of the Sorghums. Sow 10 lbs. per acre. (1b. 30c) (10 lbs. \$2.50) postpaid; (100 lbs. \$15.00) f. o. b. here.

A Word About Sorghum Silage

A report just submitted by Mr. Sullivan, (Imperial County Farm Advisor), includes the proof that, by raising silage sorghum, three times as many farm animals can be raised on one acre as were raised by the erstwhile method of rationing on alfalfa and corn.

Last spring according to the report of the farm advisor, the following seeds were placed in the hands of the farmers: 100 pounds of Honey Sorghum, 400 pounds of Texas Seeded Ribbon Cane.

Seven of the different plots were personally weighed by the farm advisor. The following yields were obtained:

No. 1 Texas Seeded Ribbon Cane, 46.60 tons to the acre; No. 2 Honey Sorghum, 45.60 tons per acre; No. 3 Texas Seeded Ribbon Cane, 36.42 tons per acre; No. 4 Honey Sorghum, 26.64 tons to the acre; No. 5 Texas Seeded Ribbon Cane, 29.90 tons per acre.

Before this demonstration, fifteen tons was considered a good yield for a silage crop. The demonstration showed that three times as much silage can sometimes be grown to the acre as was formerly grown.

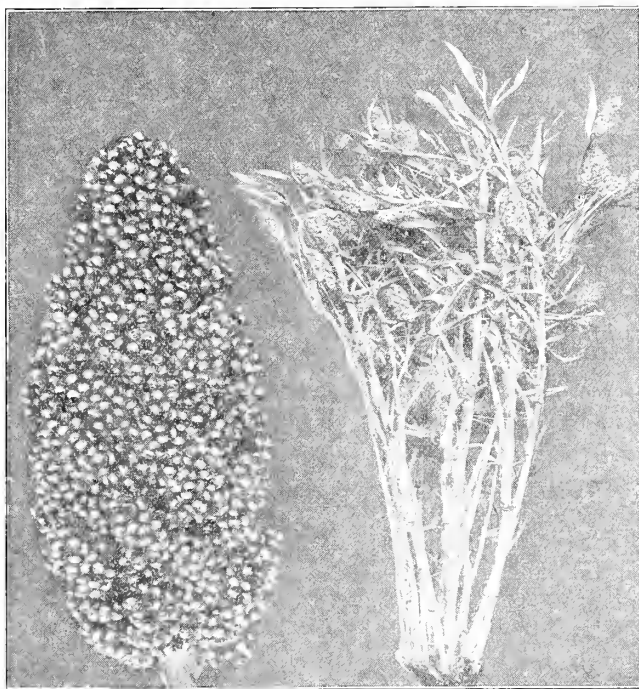
It is a common thing to hear farmers who have come here from the corn belt say: "Oh this sorghum corn is all right, but it doesn't begin to have the food value of good old Indian corn." Yet from the analysis of over 300 samples of different kinds of grain sorghums it compares favorably with Indian corn.

Non-Saccharine Crops for Grain and Forage

All prices are subject to market change.
If larger quantities are wanted by mail send the necessary postage. See inside front cover page.

Dwarf Milo Maize heads the list for grain, and Feterita a close second. These crops are given special mention because being drouth-resistant they grow very well in the southwest.

Non-Saccharine Sorghums follow in choice for silage with Dwarf Milo in the lead because of the enormous yield of grain adding much to the value of the silage. Feterita yields more tonnage but less nutritive value. These should be cut after the seed is hard, never when green.



Actual Photograph Dwarf Milo Maize
6000 lbs. of grain per acre.

57 Heads on This One Stool of Dwarf Milo
Grown by Wm. Kruger, Woodlake, Cal.

Dwarf Milo Maize The King of all Sorghums for Grain. Is much preferred to the tall variety because it stools wonderfully and matures a large head of seed on each stool, producing 3500 pounds of grain per acre, and the stalk being shorter and having more foliage, makes it more desirable for fodder. Dairymen find that the cows will give more and richer milk when fed on it. It is the right crop to plant in young orchards because it will not shade the small trees.

We have Dwarf Milo Maize grown from pedigreed stock. For the past four years the heads were carefully selected in the field before harvesting. Now we have a strain that grows about four feet high and produces forty per cent more than it did three years ago under the same climatic and soil conditions.

It is highly recommended by the State Department of Agriculture for silage. **Per lb. 25c postpaid.**

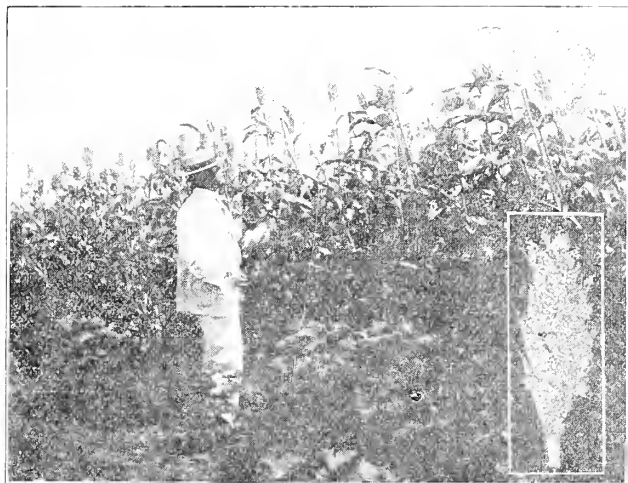
Mr. W. W. Fletcher of Lindsay, California, writes: "I wish to state that the Dwarf Milo Maize I received from you last year yielded over 6000 lbs. of grain per acre; much more than you claimed for it."

Read what Mr. E. S. Richards says: "I got eleven sacks of Dwarf Milo Maize of you in June and distributed it among my neighbors, and it turned out the best of any in the country. I only sowed twenty acres and some of that got no water, and I never cultivated it but got over 400 sacks. Dwarf Milo completely outclasses the others in real merit. I had last year comparatively little milo, planting it partly because some seed was in the planter, and partly because I secured some first class seed, and the small amount grown far outyielding equal amounts of either Feterita or Egyptian corn. Likewise the heads were round, solid, very heavy, and even the smaller ones of nice size and well developed. Likewise harvesting is very much easier and very much quicker than either of the other varieties, and there is no loss in the grains shelling out of the head.

"Part of these advantages may have been due to having first class seed of milo and common seed of the others, but except for occasional fields of poor milo in this section milo appeared to run far ahead of the others in all the ways named."

In storing sorghum grain in the head it is advisable to have ventilators in the center of the hins or cribs.

Read "More and Better Potatoes," page 52.



Feterita

Feterita Of the many non-saccharine sorghums offered in this book—none have proven more popular from the start than Feterita, on account of its astonishing growth after it becomes well rooted. Every testimonial received expresses astonishment at its rapid growth.

The grain has about the same feeding value as Egyptian Corn or Milo Maize; yields from two to three tons of grain per acre. It is bothered very little by birds, as they are unable to shell it out and waste it. The seed is more susceptible to cold than other sorghums, therefore should not be planted so early, nor should it be planted in cold soil.

The Riverside and Orange county growers report it far ahead of the common non-saccharine crops. For both excellence and abundance of forage it cannot be excelled when cut young, and for grain it is equal to any.

The second growth stools wonderfully, producing several tons of excellent forage for pasture or for ensilage after the seed has been harvested. It thrives luxuriantly on soil so alkaline that field corn will not thrive. The heads are upright. **Price—Per (lb. 25c prepaid) (10 lbs. \$1.00) f. o. b. here. Write for quantity price.**

J. A. Clipper, Imperial Valley, advises 12 pounds of seed per acre drilled two feet apart, by so doing it yields 5000 to 6000 pounds of grain per acre.

Egyptian Corn Like the preceding fodder crops, it is grown chiefly for the foliage to pasture when young, but yields largely of grain. The chief merit of these fodder crops is in their hardiness to produce fodder and grain with almost no rainfall or irrigation. Sow eight pounds per acre drilled. **Price—Per (lb. 25c prepaid) (10 lbs. \$1.00) f. o. b. here. Write for quantity price.**

POISONING BY SORGHUM: Many are reluctant to feed Sorghum for fear of poisoning stock, but we herewith give the facts:

When cut before flowering, it must be allowed to wilt in the sun for several hours before being given to the stock at this stage it contains a proportion of prussic acid and liable to be poisonous. This disappears after the flowering stage is reached. This poisonous quality is more noticeable in the second crop, or, when after a period of drouth or frost when young it has become stunted. In the form of properly prepared silage or dry fodder, Sorghum is never poisonous, but it is dangerous to pasture or to feed green sorghum after it has been frosted or stunted; it should then be cut and dried or ensilaged.

In Imperial Valley during the summer of 1918 some cattle strayed onto a field of milo, about six inches high. About forty head died within an hour after entering the field.

SMUT

The sorghums, kafirs and related plants are frequently attacked by a fungus which causes the destruction of the kernel. This is known as kernel smut.

Since the disease is carried on the seed, seed treatment is an effective remedy. It is sufficient to immerse the seed for a few minutes in a solution of formaldehyde and water. The solution used is one pint or pound of formaline, or 40 per cent formaldehyde, in 30 gallons of water.

For full information concerning Sorghums write College of Agriculture, University of California, Berkeley, California. Ask for Circulars No. 187 and 177. Also Bulletins No. 278 and 293. Also circular entitled, "Precaution Against Poisoning by Johnson Grass and Other Sorghums."

Kafir Corn Grows similar to the Milo Maize except the head is upright instead of hanging over like Milo Maize and Egyptian Corn. It will yield two to three thousand pounds of grain per acre. Sow 8 pounds of seed per acre drilled. Price—Per lb. 25c prepaid. Write for quantity price.

Shallu, or Egyptian Wheat Read the following letters:
Mr. de Venelle: "I planted 15 lbs. of you Shallu and harvested 1900 lbs. of grain and 50 tons of fodder, without irrigation."

Mr. E. S. Cook, Imperial Valley: "It grows as thrifty on alkali soil as any other; it produces from two to three tons of seed per acre."

Per lb. 25c postpaid.

Millets

CULTURE—Lumpy or hollow land is bad, therefore, it is essential that the soil be well worked and a fine, firm seed bed be made. With shallow surface soils, deep plowing is not advisable. Roll or drag before seeding, particularly, on loose or open soils. The secret of success in growing millet is shallow seeding and only when the ground is warm. 1 to 1½ inches is deep enough. Sow any time after April 1st if the weather is favorable; broadcast 15 lbs. of seed per acre, or, 8 lbs. when drilled 16 inches apart.

When desired for hay the seed should be sown in drills 16 inches apart and cultivated with a hand cultivator or a beet cultivator and worked between the rows until it is about three feet tall. Cut before the seeding stage and about 3 inches above the ground. This is important. The hay should not be fed until after it has been well wilted or it will bloat.



Chinese Millet

Chinese Millet This is a most wonderful producer, single heads measure twelve inches in length and many weigh two ounces or more. Mr. Nichols of La Habra is an enthusiastic grower of this millet, claiming it will produce two tons of seed per acre. The foliage is very heavy, the leaves broad, it therefore produces an immense amount of excellent fodder which cures rapidly. (Coz. 10c) (lb. \$1.00) (10 lbs. \$7.50).

Golden Millet

Produces from 4 to 5 tons of hay to the acre, or from two to three thousand pounds of seed. Seed grown in moist land will mature a heavy crop of hay without irrigation. Yields two crops in a season. Sow 20 pounds to the acre Price—Per lb. 25c postpaid.

Common Millet

It is an annual grass, its luxuriant leaves being very juicy and tender, are much relished by all stock. It makes a very good hay. Sow 30 pounds to the acre. Price—Per lb. 25c postpaid.

Hungarian Millet

It germinates readily and stands great drought. Has numerous succulent leaves, broad and over a foot in length. Furnishes an abundance of green fodder, relished by all kinds of stock. Sow 40 pounds to the acre. Price—Per lb. 25c postpaid. Per lb. 25c postpaid.

Hog Millet Grows rapidly and abundantly. Hogs pastured on Millet need no further fattening. It attains perfection anywhere in the Southwest. Price—Per lb. 25c postpaid.

Japanese Millet

It grows from 5 to 7 feet high, stands up remarkably and yields enormous crops. It may be sown broadcast at the rate of 15 lbs. per acre, but it is better to sow in drills 12 to 18 inches apart, using 10 to 12 lbs. to the acre.



Golden Millet

Cotton

Write for quantity price.

Egyptian A tall long staple cotton, largely grown in the Imperial Valley, and is now one of the standard varieties. Our seed was grown in Imperial County from a thoroughly acclimated strain of Egyptian Cotton. (Per pkt. 5c) (1 lb. 25c prepaid) (10 lbs. \$1.50 f. o. b. here)

American Long Staple Peeler This variety was recommended to Imperial growers by millmen of the Mississippi Delta. It has proven congenial to Imperial County and found to produce a cotton that sells at a special price because it can be used for larger bolt stock. The yield is from 1 to 1½ bales per acre.

(Per pkt. 5c) (1 lb. 25c prepaid) (10 lbs. \$1.50 f. o. b. here) Write for quantity price.

Durango Another popular variety in Imperial Valley. (Pkt. 5c) (1 lb. 25c prepaid) (10 lbs. \$1.50 f. o. b. here).

Tobacco

About every six or eight years some section comes into the limelight with wonderful success, growing tobacco. But you never see it in the same place three years successively.

Having come from a tobacco growing section in the east we were expert in the business. Therefore, when we arrived in California about twenty years ago we planted a small plot at Montebello. It was as good in every respect as the Pennsylvania article, but it just would not cure. We decided the winter climate was not suitable for curing it.

Later it was tried at Sherman by professionals from European Turkey. Yes, it grew, but one year settled that section. A few years later it was tried at Exeter by Armenians. It lasted two years.

Last year it was tried at Sacramento by Greeks. Some pictures we have seen show a fine growth.

Several small plots have been grown by Japanese about Los Angeles and many local smokers are raising small plots in their gardens to be converted into smoking tobacco for the pipe at home for strictly home consumption. We have brought from Pennsylvania seeds of the best types of tobacco. Grown exclusively for cigar fillers and the pipe.

Pennsylvania No. 1—Light Green foliage.

Pennsylvania No. 2—Dark Green foliage.

These two are the best curing types in America and should be planted 30 inches apart in rows 42 inches apart. (Pkt. 10c)

Grain and Field Crops

When field seeds are desired by mail, add the required postage. See inside front cover page.

Write for quantity prices on all grains.

With our up-to-date facilities for cleaning all kinds of seed, we aim to have all field seeds as clean and free from fowl seeds as it is possible to make them.

Grain and other field seeds that pass in the open market as clean will often show ten per cent or more of broken grain, fowl seeds, chaff and dirt. Should our prices appear higher than others, you will find upon investigation that they are cheaper, because of the purity of the seed.

A sample of our Milo Maize Seed sent to Berkeley was reported as follows: "Germination 96½%; Cracked Seed less than ½ of 1%."

Legal Weights—Pounds per Bushel

Barley	48	Clover Seed ..	60	Potatoes	60
Beans	60	Millet	50	Rye	55
Corn	56	Oats	32	Wheat	60

Write the Dept. of Agriculture, Washington, D. C. Ask for Farmers Bulletin 939. Subject "Cereal Smuts and the Disinfection of seed grain."

Wheat

Write for Price

Wheat is the most important of all cereals because of the world wide use of it. Particularly important at this time because of the world wide shortage. So imperative indeed is the need for wheat that the United States Government enacted special legislation in order that **Thomas D. Campbell of this city, a scientific dry farmer**, may rent 200,000 acres of the several Indian reservations in Montana and Wyoming for the purpose of growing wheat.

It is important then that growers give attention to the subject in order that they will plant the variety best suited to their locality with regard to soil and climatic conditions.

Defiance One big drawback against growing wheat in California has been rust, but this has been largely overcome by planting the **Defiance** variety where cool, moist weather conditions prevail. This variety is practically rust-proof.

Defiance is a late wheat and should be planted early and seeded thin. It is non-shattering and classed as a hard white wheat, and number one for milling.

Twenty-five acres grown by Mr. A. F. Thirlwall, Chino, averaged 60 bushels per acre.

Sonora This variety is recommended because of large yield, earliness and drought resistance. It is susceptible to rust and inclined to shatter but it has long been a standard variety in Southern California back from the coast. It is classed as a soft white wheat.

White Australian This variety has long proven satisfactory for California. It is medium early, drought resistant, non-shattering, heavy yielding and classed as a hard white wheat.

Early Baart Following is some information we have at Berkeley, in regard to Baart Wheat:

"In general, I would say that Baart is one of the first class varieties and does well in Southern California, especially in localities removed from the coast and relatively free from strong winds after it ripens. This wheat is not rust resistant, hence under those climatic conditions where rust prevails it is not so suitable as Defiance, although it is a better milling wheat and when not affected by rust yields fully as well if not better.

From the California Cultivator, Sept., 1918.

"Of reports from all parts of the state the most interesting one south of the Tehachapi was received from Robt. A. Todd, Imperial Valley, who says: 'If I had followed your suggestion in entirety and planted all of the acreage to Early Baart wheat I would have made a great deal more money than I did from my White Australian. We had a few warm days the latter part of April and this greatly damaged the White Australian crop. The Early Baart grew perfectly and yielded 20 sacks to the acre. The berries were plump and commanded the top price from the government. The yield from White Australian was much less than from Early Baart. I intend to plant about 600 acres to this wheat next fall.'

Similar reports from points scattered throughout the San Joaquin and Sacramento Valley have been received.

Oats

Sow 70 to 100 lbs. per acre

Texas Red (Rust Proof)—This is the only variety that is profitable to plant here. We have this on hand during the planting season.

Texas Red Oats—Grown in Texas.

Texas Red Oats—Grown in California. Write for prices.

We reclean all our Texas Oats to eliminate any Johnson Grass.

Winter Rye

Sow 60 lbs. per Acre

Although Rye is sown largely for early winter pastures green manuring and a limited acreage for the straw, it should be grown more largely for the grain which is now in great demand. It had not been considered a profitable crop because of a small yield of about 1000 pounds per acre. But since the Rosen Rye has come into prominence the yield has increased 2000 pounds per acre which together with the straw, nets a good profit to the grower.

Rosen Rye The Rosen Rye was brought from Russia in 1909 by Mr. Rosen, a student from Russia, attending the Michigan Agricultural College. This rye has been carefully kept 99% pure. Each head fills four complete rows of grain. The grains are much larger than of common rye and the yield per acre is 35 to 40 bushels while 15 bushels per acre is all that may be expected of common rye.

Speltz (Emmer Wheat)

Sow 80 to 100 lbs. per acre

A grain for dry lands, introduced from Russia. This is a remarkable grain, and should receive the attention of all farmers. It is a species of drought-resisting wheat, and not inclined to rust. It will produce a fair crop under almost any condition of climate, but grows best in dry prairie regions with hot summers, giving excellent results. Thrives on poor land or stony ground. The Experimental Stations of both the Dakotas report that it resists drought better than oats or barley. All animals eat it green, greedily, and are fond of the straw. No matter how dry the season, speltz is sure to head. You will have grain even if you have but little straw. Sow 80 to 100 pounds per acre very early, same as barley or oats. **Price—** Write for quantity price.

Barley

Sow 50 to 60 lbs. per acre

We aim always to have the best it is possible to procure. We cannot fix a price because of the fluctuations of the market.

Bearded Barley, Beardless Barley and Bald Barley. Write for prices.

TRY THIS

One rancher whose name we can not recall, told us that he sows his barley early and cuts it three times for hay; each time before the heads appear, and then allows it to head out for grain. Try it.

Flax

If interested write the U. S. Dept. of Agri., Washington, D. C., for Farmers Bulletin No. 785.

Russian Flax will undoubtedly grow as luxuriantly as it does in San Luis Obispo County, where it is at its best and yields about two tons of seed per acre. This at a normal value of \$2.25 per hundred pounds, f. o. b. San Francisco, means \$90.00 per acre to the grower, less the freight. This is better than wheat and corn, and no more expensive to grow. Sow 40 pounds of seed per acre. It requires the same culture as barley.

Price—(20c per lb. prepaid). Write for quantity price.

Rice

Rice growing as an industry is now established in certain sections of California. It is now only a matter of local conditions.

If interested write to United States Department of Agriculture at Washington, D. C., for Farmer's Bulletin No. 688, and Circular No. 97.

The variety, now accepted as the best for California, is the **Wataribune**, an early variety imported from Japan.

Price—(Per lb. 20c prepaid) (10 lbs. 80c) f. o. b. here. Write for quantity price

Tall Evergreen Broom Corn

This Broom Corn grows about eight to ten feet high, stands up well and is entirely free from crooked brush. The fibre is long and fine. Its great value is that it will not get red in the field before it is cut, but it is strictly a green variety of brush, commanding high price. It grows to perfection in all sections of Central and Southern California, back from the coast.

(Per lb. 30c postpaid) (10 lbs. \$1.00 f. o. b. here). Write for quantity price.

Dwarf Evergreen Broom Corn is more desirable than the Tall in a locality where a strong wind prevails. It is also less trouble to harvest, while the yield is nearly the same as the Tall variety. **Price—(Per lb. 30c postpaid) (10 lbs. \$1.00 f. o. b. here).** Write for quantity price.

Buckwheat

This is not a citrus orchard but shows the value of Buckwheat as a cover crop and also as a bee pasture. In addition it is valuable for the wholesome buckwheat cakes that may be eaten with honey thus conserving both sugar and

wheat, besides preventing the June drop of oranges and fertilizing the soil.

Surely the planting of Buckwheat is a war measure that Mr. Hoover would encourage.



Buckwheat

Common Buckwheat It is now demonstrated that buckwheat is one of the best cover crops to grow during the summer months. The soil is always moist where shaded with buckwheat. Sow the seed any time after April 1st, about 45 pounds per acre. Within ten weeks it will have matured seed; plow under; the seed will within ten weeks mature another crop. Thus with one sowing of seed you can plow under four crops. It will not survive the winter. Therefore it is necessary to sow once a year. When necessary we advise irrigation about time of maturity, and plow under as soon after irrigating as the soil will permit.

We highly recommend the growing of Buckwheat for reclaiming desert land, as it will start a growth and produce a crop under more adverse conditions than any other crop we know of.

Sow 40 lbs. per Acre.

1 lb. 25c postpaid. Quantity price on application.

Silver Hull Blooms longer and matures earlier than other varieties; grain of a beautiful light gray color with very thin hull.
Price—Per lb. 25c postpaid.

JUNE DROP PREVENTED

From the California Cultivator, Sept. 1918.

For three years Mr. H. E. Howard of San Dimas has been growing buckwheat as a summer cover-crop in part of his citrus orchard with very satisfactory results. Last year the buckwheat formed a solid mass of green at the time of the heat wave. Mr. Howard averaged between 350 and 400 loose boxes of fruit per acre from this piece while on the part of his orchard not planted to buckwheat he obtained about 150 boxes from 6 acres. Mr. Howard also states that his soil conditions have been greatly ameliorated by the buckwheat. He uses about 50 per cent additional water which is made up by the reduced cost of cultivation and irrigation.

BARLEY—Sow 80 to 100 lbs. per acre

Dwarf Essex Rape

Pasture for Hogs and Sheep

There is a need and a place for an extra quick growing green forage crop for use any time during fall, winter and spring and our Dwarf Essex Rape fills that need exactly.

Rape can never become a pest as it belongs to the same general family as the turnip and rutabaga and when planted under favorable conditions of soil and season, it makes an immense crop of green forage, juicy and succulent, and often at a time of year when little green feed is available.

If you have hogs or poultry to feed through the winter you can't afford to be without a rape patch. Once you have one, you will never be without one in the future.

We know of no crop plantable at the time of year suitable for rape that will bring you in so great a return for so little expenditure of time and money for seed.

Every poultry raiser needs at least a small patch of rape to furnish green feed during late fall, winter and early spring. Plant Sept. to Jan. Drill in rows, 3 feet apart.

35 cents per pound, postpaid. In quantity by express or freight, not prepaid, 20 cents per pound.

MR. FARMER

Read carefully all of pages 66 to 77.
Read about sulphur as a fertilizer. Page 65.
Read about our Call Counter. Page 5.

If you will order by phone stating when you will call, your goods will be ready when you drive up with your auto.

Grows Hemp, Rape, Sunflower and Canary Seed

The high price now prevailing will justify the planting of large acreage to these crops. With conditions that are likely to prevail in Europe beyond the time of planting next season's crop, it is sure the price of bird seed will greatly advance, thus making it certain that it would prove profitable to those who will plant large acreage to any of these crops. Each one of them is easily grown and easily harvested, but plant at least fifty acres, in order that you may have a carload of grain, or unite with your neighbors to grow a carload.

Many of these crops should be planted during December and January.

Mammoth Russian Sunflower Single heads measure 15 to 22 inches in diameter, and contain an immense amount of seed, which is highly valued by all farmers and poultry breeders who have tried it as an excellent and cheap food for fowls. It is the best egg-producing food known for poultry. It can be raised cheaper than corn, and is destined to be an article of great value. Every farmer should plant some of the seed in any waste piece of ground any time from early spring up to the middle of July. Three pounds of seed will plant one acre.

1 lb. 25c prepaid. Write for quantity price.

Sunflower is now grown largely for silage. We are not recommending it for this purpose, but it is claimed that cattle eat it eagerly and that it is wholesome food.

Farmers are not awake to the value of the Sunflower. It occupies the ground only a few months of the year, and is a very ornamental and valuable crop. Every part of the plant may be used. Paper is manufactured from the stalks and oil from the seed and the residue food for stock. It is estimated that 1000 lbs. of dried stems when burned will yield 60 lbs. of ashes, of which 35% is potash. It is a good forage for bees, as the bloom yields abundantly of honey and pollen. The seed is excellent for poultry.

The same culture applied to corn may well apply to Sunflower, therefore:

Plant Sunflower for the seed for poultry.

Plant Sunflower for the potash contained in the stalks.

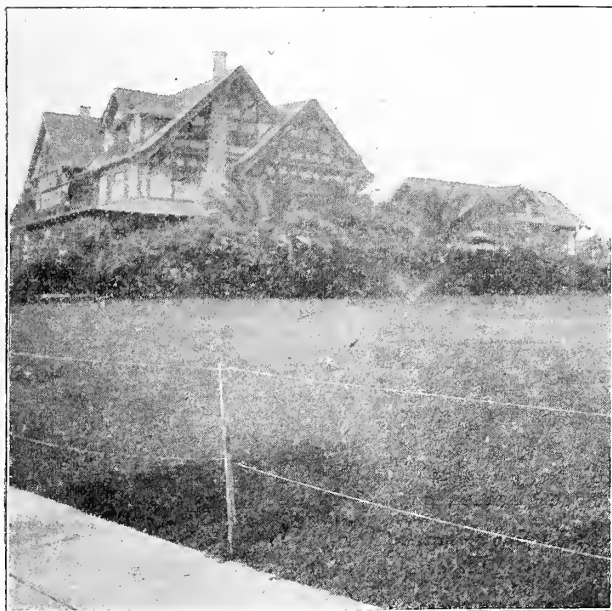
Plant Sunflower for a wind-break.

Rape Thousands of sacks of rape seed are imported each year, while it grows wild in some localities of Southern California. It is a profitable and easy crop to grow, and harvest. If interested see us about it. (Per lb. 25c prepaid). Write for quantity price.

Canary This can be grown quite successfully here. It is just as easily grown as barley, and requires the same cultural treatment. Several carloads are imported each year into Los Angeles, all of which have come from Europe. The consumption throughout the United States is enormous. All of this could be grown in California. It is worth fifty to eighty dollars per ton to the grower. If interested, write or see us about it. Per lb. 35c postpaid. Write for quantity price.

Hemp What has been said here of Canary is applicable also to Hemp. It is easily grown and requires about 100 days to mature a crop. It requires sixty pounds of seed to plant an acre, and should be sown in February or March. If interested, write or see us about it. Per lb. 30c postpaid. Write for quantity price.

Grass Seeds for Lawns



A Perfect Lawn with A & M Lawn Mixture

A & M PERFECT LAWN MIXTURE. According to the new discovery concerning inter-cropping with Legumes, explained on page 67, we have made a perfect mixture of the purest Kentucky Blue Grass and Dutch White Clover. This has been found to make the firmest sod and prettiest green lawn. It does so because the clover is a nitrogen gathering legume and this nitrogen fertilizes the Blue Grass.

When you make a lawn be sure to sow **A & M Lawn Mixture**, 1 lb. to 250 square feet of surface.

Per lb. 75c postpaid.

Fancy Kentucky Blue Grass.—The purest and best lawn seed. Produces a lasting and beautiful effect. We sell only the finest quality of this seed. (Per lb. 50c prepaid) (10 lbs. \$3.50 f. o. b. here).

White Dutch Clover.—Makes a showy effect much quicker than the Blue Grass. In conjunction with the Blue Grass, however, it forms the finest and closest turf. (Per lb. 85c prepaid) (10 lbs. \$6.50 f. o. b. here).

Australian Rye Grass.—Is very strong and quick-growing, producing an immediate effect. Later it becomes bunchy, and after a few years runs out. (Per lb. 35c prepaid) (10 lbs. \$1.75 f. o. b. here).

HOW TO MAKE A BEAUTIFUL LAWN

The beautiful lawns of Southern California cannot be excelled anywhere in the world. In few places can a new home become so quickly surrounded with luxuriant vines, trees, shrubbery and flowers. This climate will accomplish more in one season than five seasons of Eastern climate. It is a pleasure to plant here, for there is something blooming all the year round. But it requires skill and intelligent aid to direct nature to produce a profusion of beautiful colors at all times.

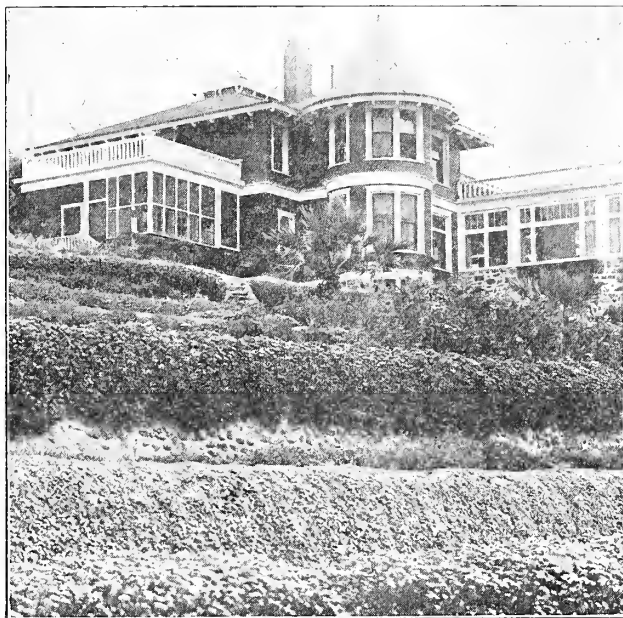
To keep up the beauty of a lawn it will be necessary to feed the grass well. You cannot expect it to retain that depth and richness of texture and color which characterizes it while young, after the elements of plant food have been exhausted.

See Bradley fertilizer, page 65.

In Southern California lawns may be made all the year. The first thing to do in making a lawn is to put the soil into proper condition to receive the seed. More lawn failures are due to insufficient preparation of the soil than to all other causes combined. If the soil is poor and of a sandy, clayey, or adobe nature, and a good rich loam is not available, satisfactory results may be obtained by spading in a liberal quantity of stable manure. Lawn grasses are voracious feeders and for that reason it is desirable to have at least eight to ten inches of good rich soil. Stable manure is most commonly used, especially for sandy soils, as chemical fertilizers usually leach too rapidly.

Unevenness in soil texture and fertility produces unevenness in the growth and color of the lawn grasses, even to the extent of grass dying in patches.

On small home grounds, it is better to have a perfectly level lawn, and in many cases this is a particular advantage in the conservation of water; the water spreading and soaking down evenly over the whole level area instead of run-



A Lippia Terrace

Plant Lippia on Your Terrace

Lippia Canescens.—This is a low-growing, trailing plant, producing grayish-green leaves, and quantities of small lilac-colored flowers. While it will respond to a light application of water, it will thrive and produce a good effect with little or no watering. Unlike Bermuda grass, it will never become a nuisance, and can easily be eradicated at any time. It stands sun and shade, and is well suited for planting in parkings along streets and avenues, and on terraces.

It is propagated by planting slips. Prepare the ground as for any other lawn or if a terrace prepare a suitable surface at the top for planting. Soak the ground until it is quite muddy; then with a pressure of the thumb bear into the mud one end of a slip six or eight inches long eight or ten inches apart each way. Sprinkle not too freely each day until well started, after which time sprinkle only as needed to keep a fresh green appearance.

We will send by mail postpaid enough cutting to plant 200 square feet of surface for one dollar (\$1.00). This will multiply rapidly in a very short time.

JUST THE THING FOR THE DESERT

From Mrs. I. C. Johnson, Las Vegas, Nev.: "We are delighted with the Lippia Grass for the cemetery. We think it is the only thing for the desert. The grass was received in lovely condition. Thank you for your advice."

ning off as fast as applied, as is often the case on sloping surfaces.

Sow about one pound of seed to two hundred square feet of lawn area. This heavy sowing is better than a thin sowing because many weed plants are crowded out by a good thick stand of lawn grass. The seed is sown evenly when the wind is not blowing and lightly raked into the surface.

In many sections of California, mulching the lawn after sowing the seed is a very desirable and oftentimes a necessary practice. The material used for such mulching should be quite fine and light in weight. Old, well-rotted sheep manure is generally used and applied lightly over the surface. After the mulch is applied a thorough watering may be given, and the soil kept moist by daily watering until the seed germinates. As soon as the grass is tall enough to be clipped, the lawn mower should be used. This early clipping tends to check the top growth of the young grass plants, and encourages them to make roots, thus producing a firm sod. After the first clipping a good rolling will tend to smooth the surface and promote better growth. Lawns should be watered thoroughly about two or three times a week during dry weather, preferably in the evening. Light surface springlings for a few minutes every evening are worse than nothing, and waste of water.

Lawns should not be clipped too short during the hottest and driest months of the year. The knives of the machine should be set high and the short, fine clippings thus produced may be allowed to remain on the lawn where they will quickly work down around the grass plants, and produce a mulch that conserves moisture and protects the crown of the plants from extreme heat. If the grass is allowed to grow too long before cutting, and a large amount of clippings are produced, they are better raked off and taken away.

The Home Flower Garden



The Flower Garden Makes the Home Beautiful

Plant Geraniums

Why is this beautiful flowering plant so much neglected? It requires little attention, little watering; it blooms all the year, in sun or in shade, nothing more beautiful for bedding or potting, for hedge or border, for arbor or window boxes. No other plant affords greater variety of flowers, both in type, color and variation of foliage. No other plant is so easily propagated. No other plant grows anywhere in all conditions of soil and climate so luxuriantly as the geranium. Every home in the city or country, and every desert home, may be surrounded, even buried in the dense cool foliage of the beautiful flowering geranium. Slips will bloom within a month after transplanting.

In order that the planting of geraniums may be encouraged, we are offering slips of various types of geraniums that shall be known by number, as we can not name all of the varieties we have to offer. Each number is described, that you may order the one best suited to your purpose. Some varieties are very scarce, but we make no variation in price, but if we haven't what you order we will substitute another variety that is of similar description. Send no order amounting to less than 25c.

Price—(5 slips 25c) (11 slips 50c) (25 slips 75c) (100 slips \$2.50) postpaid.

MAKE ATTRACTIVE THE OUT-OF-WAY PLACES

There are many annuals the seed*of which may at the approach of the rainy season be scattered broadcast upon any preferred place about the premises. The winter rains will cause them to grow luxuriantly and bloom from early spring till far into the summer, with no more care than to pull up the weeds that appear at the beginning.

Here is a list of flowers that will bloom under such conditions: (All of these will reseed themselves.)

A & M Collection of Annuals, ten packets, 35c.

African Daisy
Sand Verbena
Sweet Alyssum
Calliopsis
California Poppy

Collection
of ten
packets,
35c

Shirley Poppy
Gaillardia
Marigold
Gypsophila
Portulaca

These will furnish cut flowers for your home nearly all the year.

OUR NEW LOCATION

It is our aim that our store at 620 So. Spring St. will be so conducted that every customer will receive such courteous treatment that it will be a pleasure to return. We wish to have on hand during each season all seeds and plants needed to make the home garden complete.

All clerks are trained to give correct advice on matters pertaining to gardening, but we request that you read this catalog carefully on all subjects in which you are interested; you will find much helpful information.

Take advantage of our call counter. See page 5.

No.	Color	Height	Suitable for
1.	Salmon single	2 feet	Bedding or border
2.	Magenta double	3 feet	Bedding or border
3.	Scarlet double	3 feet	Bedding or border
4.	Pink	Dwarf Ivy	Sidewalk or window box
5.	Pure White double	12 inches	Bedding or border
6.	Apple Blossom double	12 inches	Bedding or border
7.	Light center to rose edge single	18 inches	Bedding, border or hedge
8.	Bright red double	10 feet	Hedge, arbor, or to cover fences
9.	Pink	Climbing Ivy	Sidewalk, fences, around palms
10.	Light Pink single	3 feet	Hedge
11.	Sweet scented		

One slip each of the above assortment, 11 in all, 50c.

OUR BULB DEPARTMENT

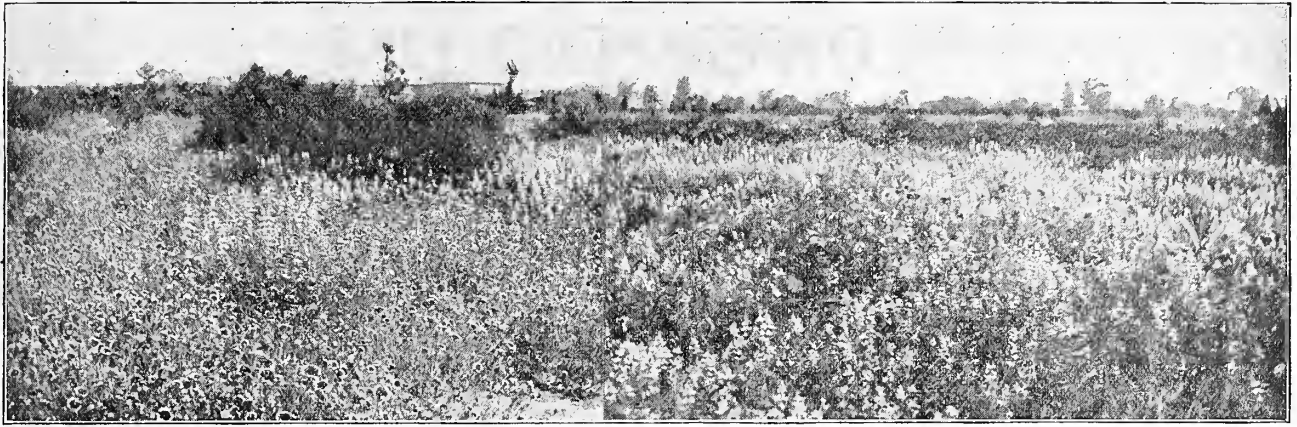
Los Angeles, the city of beautiful lawns, owes much of its popularity to the many flowering bulbs that bloom so profusely and so constantly in this climate, only requiring proper setting at the right time of the year and the right selection to attain the highest perfection of beauty.

The bulbs we offer are chosen with the purpose of giving our customers the best bulbs to get the best results. In order to get the best results, make your selection according to the time of planting, and many of them may be planted at any time in order to have them bloom when you wish.

IMPORTED DUTCH BULBS

Plant from October until February

	Price each	Doz.	Postpaid
HYACINTHS—Any color, single	15c	\$1.50	
Any color, double	15c	1.50	
TULIPS—Any color, single or double	5c	.50	
NARCISSUS—All named varieties	5c	.50	
NARCISSUS—Chinese sacred lily	25c		
JONQUILS—Largest flowering	5c	.50	
CROCUS—Striped and variegated	4c	.40	
RANUNCULUS—Mixed colors	4c	.40	
ANEMONES—Mixed colors	4c	.40	
SPANISH IRIS—Mixed colors	4c	.40	
AMARILLIS—Belladonna	15c	1.50	
AMARILLIS—Johnsonii	25c	2.50	
CALADIUMS—Elephant Ear	20c	2.00	
CALLAS—White	10c	1.00	
CALLAS—Yellow	25c	2.50	
FREESIAs—Refracta Alba	2 for 5c	.25	
GLADIOLUS—Mixed colors	5c	.50	
WATSONII—Mixed colors	5c	.50	
IRIS—Blue or white	5c	.50	
OXALIS—Pink	2 for 5c	.25	
CANNAS—Any color	10c	1.00	
TUBEROSE—Double Pearl	5c	.50	



Just a Jungle of Wild Flowers

If you have a piece of ground you cannot irrigate or have not time to give particular attention, yet you want to have something beautiful instead of unsightly weeds, we advise you to plant our A & M Wild Flower Mixture, and you will have a jungle of wild flowers like the picture above. One pound of seed is sufficient to plant an acre. (Pkt. 5c) (oz. 60c) (¼ lb. \$1.80) (½ lb. \$3.00) (lb. \$5.50) postpaid.

SEPARATE VARIETIES. We offer the following varieties in individual packets:

Eschscholtzia californica. "California Poppy." Annual, 1 to 1½ feet. The most noted of California Wild Flowers. Orange-yellow, with a beautiful glossy sheen. (Pkt. 5c) (oz. 25c).

Gilia achillaeifolia. "Blue Gilia." Annual, 1 to 1½ feet high. Small lavender-blue flowers in dense heads on graceful, slender stems. (Pkt. 5c) (oz. 25c) (lb. \$3.00).

Godetia amoena. "Farewell to Spring." Annual, 1 to 2 feet high. A slender growing plant, usually found on shady banks. Flowers lilac-crimson or red-pink, often with a dark center. (Pkt. 5c) (oz. 50c) (lb. \$5.00).

Layia elegans. "Tidy Tips." Annual, 1 to 2 feet. A yellow daisy, edged with white or cream color. (Pkt. 15c).

Linanthus densiflorus. "California Phlox." Annual, 1 to 2 feet high. Flowers in crowded clusters; pink and purple with yellow throat. (Pkt. 10c) (oz. 50c).

Lupinus nanus. "Dwarf Blue Lupine." Annual, 10 to 15 inches high. A very showy plant; flowers rich blue and white, fragrant. (Pkt. 5c) (oz. 35c).

Mentzelia lindleyi. "Blazing Star." Annual, 2 to 3 feet. Showy yellow flowers. (Pkt. 5c) (oz. 50c).

Nemophila insignis. "Baby-Blue-Eyes." Annual, 4 to 8 inches high. A charming little plant of spreading habit, with clear, azure blue flowers. Prefers shade or partial shade. (Pkt. 5c) (oz. 25c).

Nemophila maculata. "Spotted Nemophila." Annual, 4 to 8 inches. White with large deep purple blotch on each petal. Does well in shady places. (Pkt. 5c) (oz. 25c).

Plants for Window Boxes, Vases and Baskets. Ageratum, Alyssum, Begonia, Canna, Coleus, Dracaena, Divinisa, Fuchsias, Grevillea, Geraniums, Heliotrope, German Ivy, Lobelia, Mignonette, Myosotis, Maurandia, Nasturtiums, Portulaca, Petunia, Schizanthus, Thunbergia.

CALIFORNIA, THE LAND OF FLOWERS

There are no more satisfactory flowers than those grown from seed, especially the easily grown and brilliant flowered annuals. The beautiful shrubs and lilies, of course, have their place, but are far more expensive than a paper of seed which will furnish a large number of plants with usually enough for one's garden and some to spare.

This page is intended to aid you in the selection of your seeds that you may have flowers all the year round, and for every purpose.

Tender or Greenhouse means the plant will not stand the least frost. All such must be planted late in spring (May) or in a greenhouse.

Half Hardy means the plant will stand any light frost, but needs protection again very cold weather. These should be planted in the spring (March and April), not in the fall.

Hardy means the plant will stand considerable frost, or practically all we have on the Pacific Coast. These may be planted in the fall or in the spring (October to May). If sown in the fall they will come into bloom earlier than if

sown in spring, even if the plants do not make much progress during the cold weather.

Annuals are plants that bloom the first year from seed, and the plant dies after one season. Tender annuals must be sown in spring (April to June) and hardy annuals may be sown in either spring or fall (October to May).

Biennials are plants that bloom the second year from seed, and the plant dies after blooming. In California many of these will bloom the first year if sown early. Sow under same conditions as perennials.

Perennials are plants that bloom the second year from seed, and the plant lives and blooms during successive years. If sown in early spring (February to April 15) many perennials will bloom the first year from seed. Tender and half-hardy perennials are best sown in spring after frost is over (April 15 to June). Hardy perennials are best sown in the late summer and early fall (July to October) for next year's flowers.

LIST OF FLOWER SEED FOR SPECIAL PURPOSE

PERENNIAL PLANTS

Antirrhinum, Aquilegia, Asters (hardy sorts), Bellis, Canna, Campanula, Carnations, Chrysanthemums (hardy sorts), Coreopsis, Delphinium, Dianthus, Digitalis, Gaillardia (hardy), Geranium, Gypsophila, Panicalata, Heliotrope, Hollyhocks, Lobelia (hardy sorts), Matricaria, Myosotis, Pansy, Phlox (hardy), Pinks (hardy), Poppy Iceland, Poppy Oriental, Primrose, Pyrethrum, Sweet William, Verbena, Violet, Wallflower.

PLANTS FOR BEDDING AND IN MASSES

Adonis, Agrostema, Amaranthus, Antirrhinum, Asters, Bachelor's Button, Balsam, Cacalia, Calendula, Calliopsis, California Poppy, Campanula, Canna, Castor Beans, Carnation, Chrysanthemum, Clarkia, Cosmos, Coxcomb, Delphinium, Digitalis, Four o'clock, Gaillardia, Geranium, Heliotrope, Lantana, Larkspur, Linum, Mignonette, Nicotiana, Nigella, Phlox, Petunia, Pinks, Poppy, Salpiglossis, Salvia, Scabiosa, Sunflower (fancy), Stocks, Sweet Sultan, Sweet William, Verbena, Wallflower, Zinnia.

For Constant and Brilliant Bloom. African Daisy, Ageratum, Sweet Alyssum, Antirrhinum, Asters in all varieties, Calliopsis, all the dwarf Cannas, Centaurea, Eschscholtzia, Gaillardia, Scarlet Geraniums, Marigold, Nasturtium, Pansy, Petunia, Phlox Drummondii, Portulaca, Salvia, Scabiosa, Sweet Peas, Verbena, Double Zinnia.

Low-Growing Plants for Masses of Color. White—Sweet Alyssum, White Ageratum, White Candytuft, White Phlox, Drummondii, White Verbena.

Blue—Ageratum, Heliotrope, Lobelia, Blue Verbena.

Red—Carmine and Crimson Candytuft, Geranium, Phlox Drummondii, Scarlet, and Phlox Dwarf Fireball, Poppy, Verbena.

Yellow—Gaillardia, Eschscholtzia, French Marigold and Nasturtium Lady Bird.

Dwarf Plants for Edgings and Borders. Ageratum, Alyssum, Dwarf Candytuft, Centaurea, Coleus, Double Daisies, Golden Feather, Little Gem Feverfew, Heliotrope, Lobelia, Mignonette, Myosotis, Pansies, Phlox Drummondii, Pinks, Violets.

Fragrant Flowers. Sweet Alyssum, Candytuft, Carnation, Clematis Panicalata, Honeysuckle, Heliotrope, Lily of the Valley, Lily, Mignonette, Nicotiana Affinis, Pansy, Sweet Peas, Pink, Rose, Sweet William, Ten Weeks Stock, Tuberosa, Verbena, Wallflower.

Climbing Plants. Ampelopsis, Cypress Vine, Cinnamon Vine, Dolichos, the Gourd Family, Humulus Japonicus, Honeysuckle, Morning Glories and Ipomoea, English Ivy, Maurandia, Perennial Peas, Trumpet Vine, Canary Bird Vine, Alyssum, Begonia, Canna, Coleus, Dracaena, Divinisa, Fuchsias, Grevillea, Geraniums, Heliotrope, German Ivy, Lobelia, Lantana, Mignonette, Mimulus, Maurandia, Nasturtiums, Portulaca, Petunia, Schizanthus, Thunbergia, Myosotis (Forget-me-not).

For Cut Flowers. Antirrhinum, Aster, Carnation, Chrysanthemum, Coreopsis, Cosmos, Dahlia, Gladiolus, Gypsophila, Helianthus, Larkspur, Lupinus, Marigold, Mignonette, Phlox, Salpiglossis, Scabiosa, Stock, Sweet Pea, Sweet William, Sweet Sultan, Verbena, Wallflower, Zinnia.

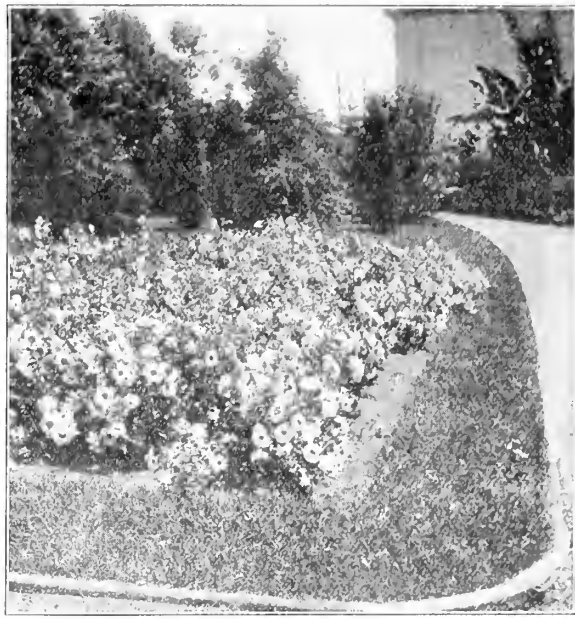
For Shady Places. Anemone, Antirrhinum, Aquilegia, Begonia (tuberous), Double Daisy, Delphinium, Scarlet Flax, Foxglove, Oenothera, Pansy, Polyanthus, Violet.

FLOWER SEED LIST

See Inside Back Cover



Phlox and Candidissima



Petunia

ABRONIA (Saud Verbeena).—A hardy annual, trailing in habit, about nine inches high, bearing verbeena-like clusters of flowers, which are very fragrant. A native of California. Thrives in dry situations, and is valuable for rock-work or hanging baskets.
Umbellata.—Rosy lilac. Pkt. 10c.

AGERATUM (Floss Flower).—A hardy annual of easy culture, especially valuable for bedding, as it is literally covered with blossoms all summer. Sow the seed early in the spring, either in boxes to transplant, or out of doors, and thin to four to six inches.

Blue Perfection.—Deep blue, one foot high. Pkt. 10c.

Imperial Dwarf White.—One foot high. Pkt. 10c.

AGROSTEMA (Rose of Heaven).—A hardy perennial, blooming the first season if the seed is sown in the autumn. Plant grows one to two feet high; flowers resemble *Dianthus* in bright colors, and are borne on long, slender stems.
Mixed colors, pkt. 10c.

ALYSSUM (*Martimum*).—A fragrant hardy annual, having the odor of honey, and bearing spikes of small white flowers in great profusion throughout the summer and autumn. Useful for borders or early bedding flowers. Sow the seed early in spring.

Sweet Alyssum.—One foot high, very sweet honey fragrance. (Pkt. 10c) (oz. 25c).

Little Gem.—Three to four inches high; fine for borders. Pkt. 10c.

Lilac Queen (New).—A new and distinct variety of a beautiful lilac shade. Dwarf, compact and very fragrant. Pkt. 10c.

AMARANTHUS.—Hardy annuals, grown especially for their brilliant foliage.
Caudatus (Love Lies Bleeding).—Light yellowish-green foliage; long, drooping crimson flower spikes. Plants grow three to four feet high. Pkt. 10c.

Salicifolius or **Willow Leaved**.—This variety never fails to attract attention. The long variegated foliage makes it very useful for tall bedding or as a background. Height 3 ft. Pkt. 10c.

ANGEL'S TRUMPET.—See *Datura*.

ANTIRRHINUM (Snapdragon).—*Antirrhinum* thrive in almost any soil, and should receive more attention. It is undoubtedly one of the best cut flowers which can readily be grown from seed, while for bedding or borders they are unsurpassed.

Majus or **Tall Large Flowering Varieties**. Height 3 feet.

Majus, Delila.—A striking contrast of carmine and yellow with a white throat. Very choice. Pkt. 10c.

Majus, Queen Victoria.—Striking variety, sending up numerous long spikes of pure white flowers. Excellent for cutting. Pkt. 10c.

Majus, Golden King.—Long spikes of showy yellow flowers which remain in bloom the whole of the summer. Pkt. 10c.

Bright Pink.—A delightful shade of pure rose pink. Very vigorous and free-flowering. Pkt. 10c.

Majus, Grandiflora.—Tall. Mixed; including all the new colors. Pkt. 10c.

Majus, Stratum or Striped.—Tall. Spikes of beautiful striped flowers. Pkt. 10c.

Majus Nanum.—A variety growing about two feet high. Indispensable for bedding and mixed borders. All the latest novelties are included in our mixture. Mixed.—Pkt. 10c.

Majus, Tom Thumb.—An excellent mixture containing all shades of these showy flowers. Splendid for edging and showy display. Height 10 inches. Mixed.—Pkt. 10c.

AQUILEGIA.—A hardy perennial, growing about two feet high and bearing an immense variety of colors on long, smooth stems.

California Hybrids.—Large yellow flowers, orange spurs; an improvement on our native sort. Pkt. 10c.

Coerulea (Rocky Mountain Blue Columbine).—Fine deep blue and white; long spurs. Pkt. 10c.

White, Spurred.—Pure white with long spurs. Pkt. 10c.

Single Mixed (*A. Vulgaris*).—Pkt. 10c.

Double Mixed (*A. Vulgaris*).—Pkt. 10c.

Long Spurred Hybrids Mixed.—For cut flowers these long spurred hybrids are unexcelled. Profuse blooms, of almost every shade, borne on long graceful stems, make this variety one of universal admiration. Pkt. 15c.

ARCTOTIC (African Daisy).

Grandis.—Large pearly white Marguerite-like flower, with delicate mauve center surrounded by a narrow golden band. The whole plant is covered with white down. Half hardy annual. Height 2 feet. Pkt. 10c.



Aquilegia Long Spurred Hybrid

ASPARAGUS

Plumosus.—A tender perennial for green-house or potted plant use, with long, fine feathery foliage. The sprays, when cut, retain their freshness in water from three to four weeks. Seeds start slowly and should be soaked in water before sowing. (Pkt. 10c) (100 seeds 50c).

Sprengeri (Emerald Feather).—An early easily grown, feathery-leaved variety, with drooping branches. The best variety for hanging baskets. (Pkt. 10c) (100 seeds 50c).



Our Asters Growing for Seed

ASTERS.—A popular half-hardy annual produced in a great variety of classes and an almost endless number of colors. The tallest grow about two feet high, and some varieties of dwarfs are not over eight inches high. The best method of culture is to sow the seed in boxes and transplant when large enough to handle. The seed can be sown, however, in the row where the plants are to remain, thinning them from six to twelve inches apart, according to variety. We offer the three most useful varieties.

Queen of the Market.—One of the earliest blooming varieties, blossoming frequently in July. Of spreading habit, 8 to 10 inches high. Blossoms medium sized, and the petals curve outward. The best variety for bedding or edging.

Mixed. All Colors.—Pkt. 10c.

Ostrich Plume.—Extremely graceful Aster, with large, loose feathery heads, unrivalled for table decoration, flowers double and semi-double. The branching habit makes this a conspicuous border plant. Height, 18 inches.

White	Crimson
Shell Pink	Light Blue
Rose	Dark Blue

All colors, mixed. Pkt. 10c.



Aster Ostrich Plume

Giant Branching.—The tallest and best florist's variety, and we heartily recommend it as the very best type of Aster we have. The plant grows 24 inches high and about 18 inches in width, and the blossoms, which are large and full-petaled, are borne on long stems or branches. The most satisfactory type of all Asters, since it is not only a showy bedding flower, but owing to its long stems and large blossoms, is valuable for bouquets. Comes into flower late in the autumn. Best colors:

Lavender	White
Pink,	Crimson
Rose,	Purple
	Mixed

Pkt. 10c.

AUSTRALIAN PEA VINE (Dolichos Lig-nosus).—A rapid growing evergreen climbing perennial, flowering freely in large clusters of rose flowers. For covering arbors, trellises, etc., they have no superior. Pink (Pkt. 10c) (oz. 25c).



Giant Branching Asters

BARTONIA AUREA.—A showy annual bearing large golden yellow flowers which glisten in the sunshine. Height 18 inches. Pkt. 10c.

BALSAM OR TOUCH-ME-NOT.—A tender annual, with brittle stems and foliage. Flowers both single and double, in bright colors and variations are wax-like and very attractive. The individual blossoms floating in a dish of water exhibit their beauty to the best advantage.

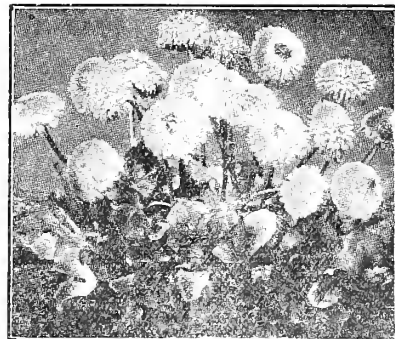
Improved Double Camelia Flowered.—In its extraordinary size, perfect form and brilliant colors, this fine strain of balsams surpasses all others. Height, 18 inches. Pkt. 10c.

Rose Flowered.—Handsome double flowers in form resembling a rose. Height 18 inches, fine mixed. Pkt. 10c.

Spotted.—Large semi-double flowers well adapted for borders, fine mixed colors. Pkt. 10c.

BACHELOR'S BUTTON.—See Centaurea.

BALLOON VINE, OR LOVE-IN-A-PUFF.—Climbing annual, with small inferior flowers. The seed pods are curiously swelled or puffed, and are quite attractive. (Pkt. 10c) (oz. 25c).



Bellis (Double Daisy)

BELLIS PERENNIS (Double Daisy).—A hardy perennial, blossoming freely all spring and summer. Plant is about four inches high and is valuable for borders. Is much sown in lawns.

Extra Double White, or Snowball.—A clear white variety. Pkt. 15c.

Extra Double Pink or Longfellow.—A beautiful shade of pink. Pkt. 15c.

Double Mixed.—Pkt. 10c.

BEAN (Scarlet Runner).—A popular climber; the pod is edible and much esteemed. Flowers scarlet; beans black and red. Pkt. 10c.

BEGONIA.

Fibrous-Rooted Varieties.—For outdoor culture, having beautiful leaves and bearing clusters of small, waxy flowers. Sow in well drained seed pans, pressing the seed down firmly but do not cover. Water with a fine spray. Height 1 to 2 feet.

Mixed.—Pkt. 25c.

BIGNONIA (Trumpet Vine).—Magnificent hardy perennial climber, with brilliant scarlet or yellow flowers; a most ornamental and effective covering for walls, houses, etc. 30 feet. Pkt. 10c.

BORDER PINKS.—See Dianthus Plumarius.

BRACHYCOME IBERDIFOLIA (Swan River Daisy).—A charming annual deserving greater popularity. The plants, which grow about 10 inches high, are covered with small Cineraria-like blooms in shades of blue and lavender.

Mixed.—Pkt. 10c.

CALENDULA (Pot Marigold).—Very hardy annual, one foot high, blooming freely practically the whole year round. Is of the easiest culture and is desirable for rather inferior soils, where less sturdy flowers do not thrive. A medicinal extract resembling arnica is made from the flowers.

Orange King (New).—This variety is now being grown indoors in Eastern States as a winter flower. Bears giant flowers sometimes 3 inches in diameter. Color pure orange. (Pkt. 10c) (oz. 25c).

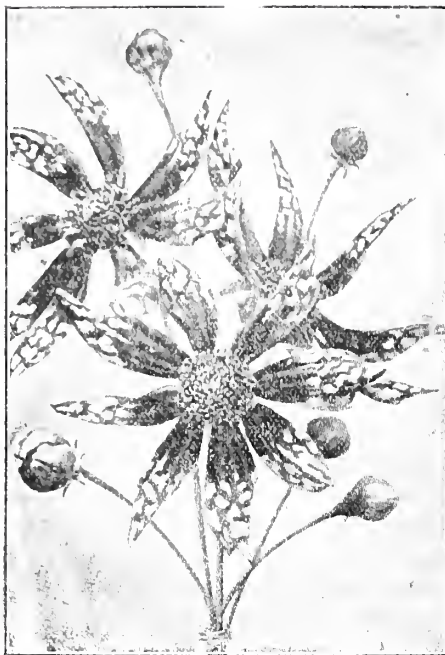
Lemon Queen.—Like the above but of pure lemon. (Pkt. 10c) (oz. 25c).

Double Mixed.—A good mixture of 8 or 10 different shades of yellow, some clear colors and some shaded and striped. (Pkt. 10c) (oz. 15c).

CANDYTUFT (Iberis).—A hardy annual, growing about 6 to 18 inches high, according to the variety. The blossoms are borne on variously long spikes, and the newer varieties are quite large-flowering and very fragrant. Of easy culture and valuable for bedding or massing.

New Giant White Hyacinth Flowered.—A giant Candytuft, bearing immense snowy white spikes the blooms of which often measure 10 inches or more. Don't fail to give this a trial. Pkt. 10c.

Coronara Empress.—Large trusses of pure white flowers, the finest candytuft yet raised. Pkt. 10c.



Calliopsis Tiger Star

CALLIOPSIS.—These will grow luxuriantly in any situation and are most useful, affording a constant supply of richly marked flowers for cutting. All varieties are annuals.

Drummondii.—Large, rich, golden yellow flowers with chestnut-brown centers produced in abundance. Height 18 inches. Pkt. 10c.

Thunbergii.—Showy, yellow and brown flowers, height 2½ to 3 feet. Pkt. 10c.

Radiata Tiger Star.—A rich and continuously blooming annual with pretty, peculiar flowers. The petals of each flower are twisted like those of the well known Cactus Dahlia. Toward the center they show a vivid reddish brown coloration, the outer part being brilliant golden yellow tinged. The plants reach a height of about 8 inches and form round, compact bushes which are throughout the summer literally covered with pretty flowers. Pkt. 10c.

Tall Mixed.—Very showy. Height 2 to 3 ft. Pkt. 10c.

CALIFORNIA POPPY.—See Eschscholtzia.

CANARY BIRD FLOWER (Tropaeolum Canariense).—A tender, climbing annual of the nasturtium family. Blossoms have curiously winged petals and are light yellow. Pkt. 10c.

CANNA.—See Bulbs.

CANNA.—Mixture of the popular varieties, red and yellow flowers. Plants have large ornamental leaves.

Crozy's Varieties.—Mixed. New large-flowered and free-blooming sorts. Pkt. 10c.

CANTERBURY BELLS (Campanula Medium).—A hardy perennial, blooming the second year from seed, or the first if sown early. Grows about three feet high.

Calycanthemum.—A variety of Canterbury Bells having large semi-double flowers each resembling a cup and saucer.

Mixed.—Pkt. 10c.

Single Blue
Single White
Single Pink
Single Mixed
Pkt. 10c.

CARDINAL CLIMBER.—A new climber of great merit, bearing a mass of small crimson flowers. Height 10 to 15 feet. Pkt. 15c.

CASTOR OIL BEAN.—See Ricinus.

CARNATION.—Our strain of these popular flowers is unsurpassable in beauty and variety of coloring, also in their delightful fragrance. For largest, richest flowers, we recommend their culture in pots of rich soil or small, shallow boxes. Cover the seed lightly, and shade from the strong rays of the sun. When the young plants are two or three inches high, they may be transplanted out into small beds. Shade and water them until established. Then they can be planted out in well-prepared beds, 12 to 18 inches apart. While the weather is cool, the grounds should be mulched about 2 inches deep with well-rooted manure. This will not only help to retain the moisture in the ground, but also supply nutriment to the plants. The seed may be sown any time between March and September.

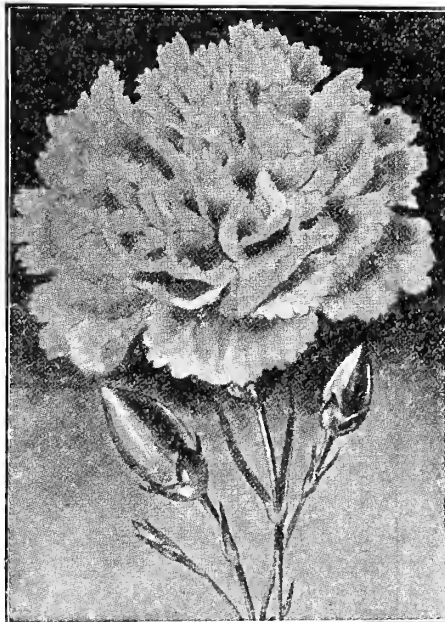
Chaubaud Earliest French.—From the ease with which this fine carnation can be flowered as an annual it has attained a popular position, and will continue to hold a foremost place in the garden. The beautiful fringed double flowers make a brilliant display of attractive coloring in the open and are greatly prized in borders and for table decoration. Mixed colors. Pkt. 15c.

Grenadin Scarlet.—A valuable early-flowering variety coming quite true to color and producing an exceptionally large percentage of sweet scented double scarlet flowers of a most telling color. Pkt. 10c.

Germania.—Large flowering double carnation of a deep rich canary yellow. Pkt. 15c.

Marguerite Pure White.—An exquisite sweet scented fringed flower of pure white color. Invaluable for bedding or indoor decoration. Pkt. 10c.

Marguerite, Mixed Colors.—Very varied; gives a large percentage of fine double flowers. (Pkt. 10c) (½ oz. 20c).



Carnation Chaubauds

CELOSIA.—Very ornamental and strong plants, producing magnificent spikes of feathery looking flowers. They succeed well in the garden and make very attractive pot plants.

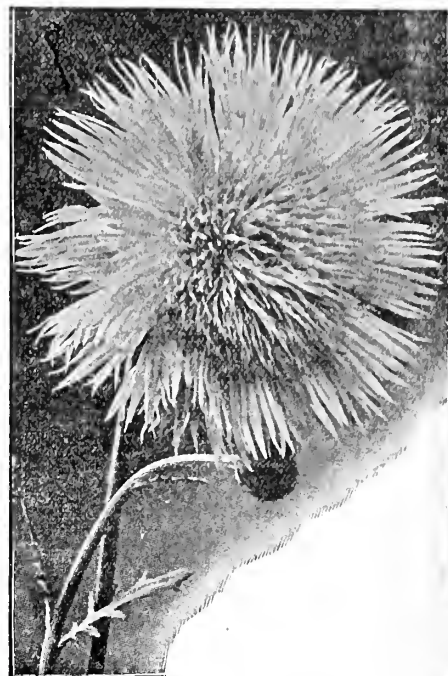
Childsii or Chinese Woolflower (New).—A new annual of great merit. As the name suggests the flowers resemble huge balls of crimson wool. Apart from the novelty its striking appearance makes this of great value in the flower bed. Height 15 inches. Pkt. 15c.

Thompson's Zeuzipica.—A very fine selection of the popular feathered Celosia containing many pleasing shades of color varying from pale yellow to the deepest crimson. Pkt. 10c.

CELOSIA CRISTATA (Cockscomb).—This is too well known to need description. We offer it in the following:

Dwarf Empress.—A handsome strain, large and compact heads; color splendid crimson. Height 10 inches. Pkt. 15c.

Dwarf Yellow.—Like the above but of a rich yellow shade. Pkt. 15c.



Centaurea Imperialis

CENTAUREA IMPERIALIS (Royal Sweet Sultan).—This is the variety so popular in the florist's store. The plants are of spreading habit and one plant has been known to keep a home replenished with cut flowers during the entire summer. We offer it in the three distinct shades. Height 3 to 4 feet.

Imperialis Pure White.—Pkt. 10c.

Imperialis Lavender.—Pkt. 10c.

Imperialis Purple.—Pkt. 10c.

All Colors Mixed.—Pkt. 10c.

CENTAUREA CYANUS (Corn Flower or Bachelor's Button).—This old fashioned flower is still a great favorite for cutting purposes. We call special attention to our new Double Blue which is a great improvement on the single variety.

Double Blue.—The same pleasing shade of blue but of much more substance than the single kind. Height 2 to 3 feet. Pkt. 10c.

Single Blue.—The rich deep blue Bachelor's Button. Pkt. 10c.

Single Mixed.—Contains various shades of pink, white and blue. Pkt. 10c.

CENTAUREA CANDIDISSIMA (True Dusty Miller).—Broad silvery white foliage, useful for edging. Height 12 inches. Pkt. 10c.

CINERARIA.—A tender perennial, grown principally in the greenhouse, but can be grown in the garden in summer. Seed should be sown in summer, and the greenhouse requires only moderate heat. Plants grow from 1 to 2 feet high and bear clusters of large, single flowers of bright colors. Will do well in a partly shaded location.

Cineraria Hybrida Grandiflora.—The mixture includes every conceivable shade of pink, carmine, crimson and blue, varying to violet, as well as pure white, and blue and white. The flowers are of immense size. Pkt. 50c.

Hybrida.—Choice mixed; splendid strain of compact growth, bearing large exquisitely colored flowers. Pkt. 25c.

CLARKIA.—A hardy annual of easy culture, growing about 18 inches high and bearing bright rose, white, or purple flowers in great profusion. Native of California. Seed sown in the fall will give early blossoms in the spring. Seed can be sown almost any time.

Elegans Double Mixed.—The long sprays of bloom resemble peach blossoms and are very showy when in full bloom. Height 3 ft. **Pkt. 10c.**

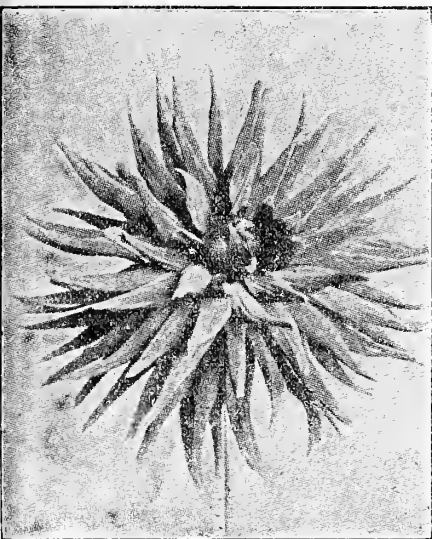
Fulchella, Single Mixed.—Much dwarfer than the preceding and usually planted for mass effect. Height 15 inches. **Pkt. 10c.**

CLEMATIS, Paniculata.—A very fine hardy climber; leaves bright and glossy green; flowers small and hawthorn scented, and just covering the plant when in bloom. Excellent for covering trellises, cemeteries or fences. **Pkt. 10c.**

COBEA SCANDENS (Cup and Saucer Vines).—A climber of rapid growth; very valuable for covering trellises, arbor, trunks of trees, etc. Will cling to any rough surface, often attaining a height of 30 to 40 feet in one season.

Scandens Purpurea.—Large bell-shaped purple flowers. **Pkt. 10c.**

Scandens Alba.—Pure white. **Pkt. 10c.**



Dahlias, Cactus, Choice Mixed

VOIX LACHRYMAE ("Job's Tears").—Curious ornamental grass with broad, corn-like leaves and seeds of a light slate color. Valuable for winter bouquets with everlasting flowers. Strings of handsome beads are made from the seeds. Hardy annual; three feet high. **(Pkt. 10c) (oz. 30c).**

VOLEUS.—These beautiful and ornamental foliage plants, producing the most attractive colors are a most interesting subject to grow from seed. To watch the foliage change into a variety of colors as it grows day by day, is wonderful. **Pkt. 15c.**

CONVOLVULUS OR MORNING GLORY.—Free flowering, beautiful climbers with rich and varied colored flowers, very useful for covering lattice work, verandas, etc., where they are exceedingly effective. Soak the seed for several hours in warm water before planting.

Major Tall Mixed.—Attains a height of 15 feet or more and comes in shades of Rose, Crimson, Blue and White. **(Pkt. 5c) (oz. 15c).**

Minor Dwarf Mixed.—A beautiful hardy bedding and border plant, attaining a height of about 1 foot. **(Pkt. 5c) (oz. 15c).**

Imperialis (Imperial Japanese Morning Glory).—The best Morning Glory for strong growth and varying colors. Height 15 to 20 ft. **(Pkt. 10c) (oz. 15c).**

CORNFLOWER.—See Centaurea.

COREOPSIS.—See Calliopsis.

COREOPSIS (Lanceolata Grandiflora).—A hardy perennial bearing a profuse and long-continued succession of large, bold, golden yellow flowers during the whole summer months. Seed sown in March will flower the same season. Height 2½ feet. **Pkt. 10c.**

COSMOS.—A tender annual with fine-cut, feathery foliage and large, showy blossoms. Cosmos are now divided into two distinct classes, the early and late varieties. The early flowering will bloom in June and if cut back will bloom again in September. The late blooms in the fall or about November 1st. Plant out in the open where the flowers are intended to bloom.

New Gigantic Orchid Flowering Lady Lennox.—Size, 6 inches in diameter, with wide overlapping petals of an exquisite shade of shell pink. The flowers are on long stems, making them exceptionally desirable for cutting. Height 5 to 7 feet. **Pkt. 10c.**

Late Giant Crimson.—(Pkt. 5c) (oz. 25c).

Late Giant Pink.—(Pkt. 5c) (oz. 25c).

Late Giant White.—(Pkt. 5c) (oz. 25c).

Late Giant Mixed Colors.—(Pkt. 5c) (oz. 25c).

New Mammoth Early Flowering Mixed.—An improved early type which bloom 60 days after planting. The immense blooms often measure 6 inches in diameter and come in a mixture of white, pink and crimson. For florists or the private garden this variety is certainly the best. **(Pkt. 10c) (oz. 50c).**

CYCLAMEN.—A tender, bulbous perennial, used in greenhouses and window gardens. It is easily grown from seed. Sow in the fall or early spring.

Persienum Giganteum.—Flowers of extraordinary size. The leaves are proportionately large, marked with silver-grey. Extra choice mixed. **Pkt. 25c.**

CYPRESS VINE (Ipomea Quamoclit).—A tender climbing annual with soft fern-like foliage and small star-like flowers. Choice mixed colors. **Pkt. 10c.**

DAHLIA.—Although not generally known Dahlias are easily grown from seed. If planted early in a hot bed and transplanted when danger of frost is past they will bloom the first season and make large bulbs by the fall.

Cactus, Choice Mixed.—Our mixture contains many of the recent novelties. Giants with pointed petals. **Pkt. 10c.**

Double.—Choice mixed colors in great variety and flowers of excellent form. **Pkt. 10c.**

Single Mixed.—Seed saved from the choicest varieties. **Pkt. 10c.**

DAISY, SHASTA DAISY.—A fine perennial plant bearing large white single blossoms, with yellow centers. Soak seed in warm water over night before sowing. **Pkt. 10c.**

DAISY, DOUBLE.—See Bellis.

DATURA (Trumpet Flower).—Tender annual, growing about 3 feet high, flowers large and trumpet shaped. Choice mixed colors. **Pkt. 10c.**

DELPHINEUM OR PERENNIAL LARK-SPUR.—Beautiful, hardy border perennials with noble spikes of handsome flowers; very useful for cut flowers, etc. Sow in the spring or early fall in seed beds or boxes and transplant when large enough.

Elatum Hybridum Mixed.—Large, handsome flower spikes, including the best of the new double and single varieties; height 3 feet. **Pkt. 10c.**

Formosum.—Rich blue flowers, exceedingly effective in borders; height 3 feet. **Pkt. 10c.**

Blue Butterfly.—A distinct variety which blooms from seed the first season. The large single spikes are of a rich Salvia Blue and make a splendid cut flower. Height 18 inches. **Pkt. 10c.**

DIANTHUS, OR PINKS.—Hardy annuals, about 1 foot high, and bearing beautifully colored single and double blossoms in profusion all summer. Sow seed early in boxes and transplant, or sow in rows where the plants are to remain, and thin.

CHINENSIS OR CHINESE PINK.—This comes in a large range of colors and is used largely for massing in beds. **Mixed.—Pkt. 10c.**

HEDDEWIGI OR JAPANESE PINKS.—A good variety for bedding or cutting. The single or double flowers are very showy.

Heddewigi Snow Drift.—Large, pure white double flowers beautifully fringed. **Pkt. 10c.**

Heddewigi Mourning Cloak.—Large double flowers almost black in color, beautifully edged with white. **Pkt. 10c.**

Heddewigi Mixed.—Contains eight or more different colors. **Pkt. 10c.**

PLUMARIUS (Grass Pink).—Hardy perennial producing large fragrant double, semi-double and single flowers of varied colors. **Pkt. 10c.**

DUSTY MILLER.—See Centaurea Candidissima.

DIGITALIS, OR FOXGLOVE.—A hardy perennial, blooming the second year from seed. Grows usually about 3½ feet, although in very rich soil sometimes 6 feet. The bell shaped flowers are borne on long spikes, and come in shades of purple, lavender, rose and white, all spotted lightly inside the blossom. Thrive best in cool, shady locations. **Fine Mixed.—Pkt. 10c.**



Shasta Daisy

DIMORPHOTHECA AURANTIACA.—The Golden Marguerite. A rare and extremely showy annual from South Africa which has become a great favorite on account of its easy culture and beautifully colored flowers. Its Marguerite-like blossoms, produced in great profusion, are 2½ to 3½ inches in diameter. These are a unique glossy rich orange gold, which brilliant coloring is rendered more conspicuous by the dark disk surrounding the black zone. **Pkt. 10c.**

DOLICHOS, OR HYACINTH BEAN.—Tender, climbing annual. Grows rapidly and is valuable for covering a trellis. Flowers in purple or white; are borne on long stems, the individual blossoms resembling the bean flower, and the ornamental pods resemble bean pods. Sow seed in open ground late in April. **Lablab.—Mixed. (Pkt. 10c) (oz. 15c).**

EVERLASTING FLOWER.—See Helichrysum.

EVERLASTING PEAS.—See Lathyrus Latifolius.

EVENING PRIMROSE.—See Oenothera.



California Poppy

ESCHSCHOLTZIA OR CALIFORNIA POPPY.—A hardy annual with fine-cut feathery foliage and beautiful velvety cup-shaped flowers. Grows from 1 to 1½ feet high and blooms profusely. Seed may be sown in the fall and any time thereafter till April, and blossoms may be had from early in January till late in summer. The beautiful State flower of California. **Californica.**—The bright, orange-yellow common variety. (Pkt. 5c) (oz. 25c). **Crocina.**—Pure deep orange. (Pkt. 5c) (oz. 25c). **Crimson Improved.**—A deep rich crimson. Very choice. Pkt. 10c. **Pure White.**—(Pkt. 5c) (oz. 25c). **Mixture of All Varieties.**—(Pkt. 5c) (oz. 30c) (lb. \$3.50).

BUSH ESCHSCHOLTZIA.—See Hunnemannia.

FLAX.—See Linum.

FEVERFEW (Matricaria Capensis).—Called Double Feverfew. A plant growing 18 inches high and bearing profusely small double flowers. **Golden Ball.**—Pkt. 10c. **Silver Ball.**—Pkt. 10c.

FLOWERING SAGE (See Salvia)

FOXGLOVE (See Digitalis)



Gaillardia Grandiflora

FUCHSIA (Lady's Eardrop).—A well known plant of easy culture in pots for the conservatory, parlor decoration or the open ground. Start seed early under glass. **Double Mixed.** Pkt. 25c.

FOUR O'CLOCK (Mirabilis).—A hardy annual of easy culture, growing about 2 feet high. The plant is free flowering, bearing blooms of a great variety of colors and spikes. **Mixed.** Pkt. 5c.

FORGET-ME-NOT (Myosotis).—A hardy perennial, growing 6 to 12 inches high. Small star-like flowers are borne in clusters on long stems; blooms the first year if seed is sown early. Thrives best in a cool, moist location.

Alpestris.—Blue. Pkt. 10c.

Victoria.—Large flowers; bright azure blue with yellow center; plant symmetrical, dwarf and strong grower. Pkt. 10c.

GAILLARDIA.—Beautiful show plant, remarkable for the profusion, size and brilliancy of its flowers continuing in bloom from early summer till late in the fall. Excellent for beds, borders, or for cutting. Should be sown where they are to bloom, height 18 inches.

Grandiflora.—Single perennial variety of varying shades of reddish brown and yellow. Pkt. 10c.

Pieta Lorenziana Double Mixed.—Large heads of bright yellow and red flowers. Very double, with quilled petals, suitable for bouquets. Pkt. 10c.

Pieta Single Mixed.—Favorite bedding plant, producing throughout the summer numerous yellow and scarlet flowers. Pkt. 10c.



Geranium

GODETIA.—A hardy annual, 15 inches high, of compact growth, satiny cup-shaped flowers in deep red, pink and white, shaded and blended. Valuable for bedding. Sow seed early in the year.

Semi-Dwarf Mixed.—Including all the finest varieties. Pkt. 5c.

GERANIUM.—A half-hardy perennial, flowering the first year from seed if sown early. A gorgeous flower of numerous shades of color; bearing continuously renders this one of the most popular plants grown.

Large Flowers of Fancy Show.—This choice mixture includes many of the newest and finest sorts. Pkt. 25c.

GERANIUM CUTTINGS.—See Page 85.



Gloxinia Ornamental Foliage

GLOXINIA.—Beautiful hot-house plants, with large, bell-shaped blossoms, which come in rich, velvety-deep, and bright colors, some of which are beautifully marked. Sow in the fall or early spring.

Hybrida Grandiflora.—Enormous flowers. Pkt. 25c.

GOLDEN-GLOW (See Rudbeckia)

GYPSOPHILA (Baby's Breath).—A hardy annual of easy culture. Grows two or three feet high, and bears a profusion of small star-shaped white and pink flowers.

Paniculata.—Fine for bouquets; white flowers; perennial. (Pkt. 10c) (oz. 60c).

Elegans.—Annual white. Very largely grown by florists for use in bouquets. (Pkt. 5c) (oz. 35c).

Elegans Carmine.—A recent introduction of a deep carmine rose. Pkt. 10c.

HELIANTHUS (See Sunflower)

HELIOTROPE.—A half-hardy perennial growing four to eight feet high. Small flowers, borne in graceful clusters and very fragrant. Blooms the first season from seed if sown early. Forms a large plant and requires a roomy situation.

Queen Marguerite.—Purple blue. Pkt. 15c.

Finest Mixed.—A mixture of the ordinary true types in shades of white, mauve and purple. Pkt. 10c.

HELICHRYSUM (Everlasting Flower).—A free-flowering, hardy annual, growing four to five feet high and bearing beautiful straw-like flowers in a great variety of shades and colors. Makes a very handsome dried bouquet. To dry pick the flowers in a young stage, as they open after picking, and hang head downwards in a cool dark place.

Monstrosum Mixed. (Pkt. 10c) (oz. 25c).



Helichrysum



Hollyhock

HOLLYHOCK.—A hardy perennial of upright, stately growth, five to eight feet high, unequalled for a background or covering ugly places. Seed sown in seed beds or boxes in the spring. May be planted out when large enough and will bloom the following year. The following are saved from large double-flowering varieties:

Double White.
Double Yellow.
Double Pink.
Double Black.
Double Mixed.

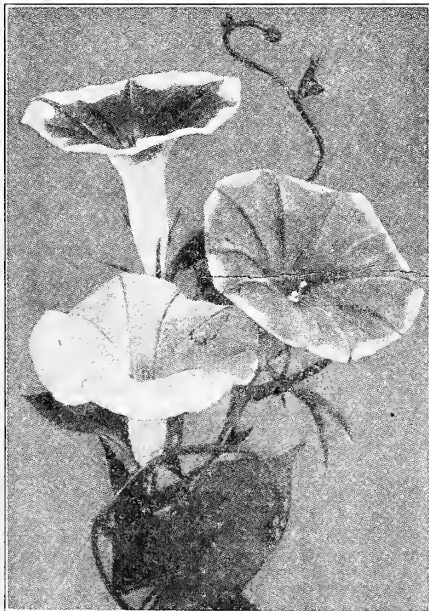
Any of the above, Pkt. 10c.

Allegheny.—This unique and beautiful variety produces semi-double flowers about 3 inches across. The petals are crinkled and fringed like crumpled and slashed satin. Pkt. 10c.

New Annual Mixed.—A new departure in Hollyhocks. Seed sown in the Spring will bloom the first year. Pkt. 10c.

HUNNEMANNIA, OR BUSH ESCHSCHOLTZIA.—Known also as the Santa Barbara Poppy. An erect-growing, tender perennial, about two feet high. Foliage fine-cut, feathery blossoms, beautifully cup-shaped, bright yellow, and about three to four inches across. Stems, long and smooth. Unlike the average Poppy *Hunnemannia* will keep for several days in water and makes a splendid cut flower. Pkt. 10c.

HYACINTH BEAN (See Dolichos)



Ipomoea or Moonflower

IPOMOEA (Moonflower).—An extensive genus, including many well known garden flowers. These are tender climbing annuals from 5 to 30 feet long. The seed of several varieties, especially the moon flower, should have the outer shell punctured and then soaked in water for twelve hours or more to germinate it.

Bona Nox (Evening Glory).—Rosy lilac flowers, expanding in the evening; of very rapid growth. Pkt. 10c.

Coccinea.—Brilliant scarlet flowers, with small foliage. Pkt. 10c.

Grandiflora Alba.—Large flowers of pure white. Pkt. 10c.

Lentii.—Violet and blue flowers. Pkt. 10c.

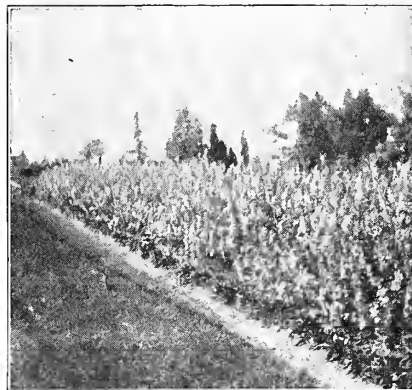
IPOMOEA IMPERIALIS (See Morning Glory).

IPOMOEA QUAMOCLIT HYBRIDA.—See Cardinal Climber.

JOB'S TEARS (See Coix Lachryma).

KOCHIA TRICOPHYLLA (Summer Cypress).—A splendid ornamental annual plant, forming dense oval bushes, 2 to 2½ feet high, of small, feathery, light green foliage. As summer advances this changes to a carmine hue and finally to a fiery red. A very attractive plant at all times. Also called "Burning Bush." Pkt. 10c.

KUDZU VINE (Pueraria Thunbergiana). A new climber of great merit. This vine is one of the most rapid climbers there is, growing to 20 feet quickly. Called also Jack-and-the-Bean Stalk. Hardy perennial. Pkt. 10c.



Larkspur, Tall Double

LARKSPUR.—A useful annual for the border or for cut flowers. The double flowering varieties we offer are a great improvement on the old single kinds. Height 3 ft.

Double Stock Flowered Lustrous Carmine.—An entirely new shade. Color a bright rosy carmine. Pkt. 10c.

Double Stock Flowered, White.

Double Stock Flowered, Lilac.

Double Stock Flowered, Deep Blue.

Double Stock Flowered, Mixed.

Any of the above, Pkt. 10c.

LANTANA.—Tender perennial, growing from 2 to 3 feet high, bearing Verbena-like clusters of flowers, in orange, white, rose and other colors, excellent for bedding.

Choice Mixed.—Pkt. 10c.

LATHYRUS LATHIFOLIUS (Everlasting Pea).—A hardy, perennial climber of great beauty with elegant sweet pea-like flowers in great profusion; height 6 to 8 feet.

Red.—Pkt. 10c.

Fine Mixed.—Pkt. 10c.

LINUM, OR SCARLET FLAX.—A hardy annual, about one and one-half feet high. Of slender and graceful appearance, with smooth stems and bright red flowers, which are borne in great profusion. Can be sown early out of doors, and thrives well in good soil.

Rubrum.—Pkt. 10c.

LOVE-IN-A-MIST.—See *Nigella*.



Lobelia Crystal Palace

LOBELIA.—A hardy annual and perennial. The annual grows four to six inches high, is of compact growth, and literally covered with small bright flowers. By cutting back the plants during the summer and giving plenty of water they may be kept in flower all summer. Used for ribbon work and borders or hanging baskets.

Bernard's Perpetual.—Flowers brilliant ultramarine blue, with a pure white mark at the base of each of the two lower petals; height 6 inches. Pkt. 10c.

Crystal Palace.—Undoubtedly the finest dwarf blue Lobelia for bedding. Plants very compact, profusely covered with rich blue flowers. Height 4 inches. Pkt. 10c.

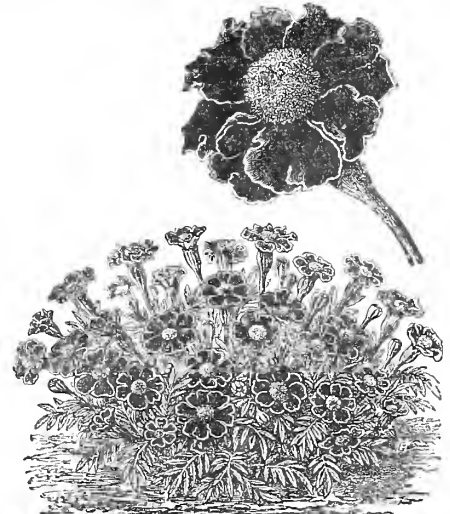
LUPINS (or Lupinus).—In spite of the fact that the Lupin is one of the most common of our native flowers, many people still grow it for its beauty. We offer the annual variety only which is the most easily grown.

Annual Mixed.—Height 2 ft. Pkt. 10c.

MARIGOLD.—A hardy annual, in dwarf and tall varieties, growing from 6 inches to 3 feet high. The flowers are various shades of yellow and brown. The tall varieties are very valuable for large bedding or background work, and the dwarf varieties for borders.

Dwarf French Legion of Honor.—The color is a dark velvety brown, gracefully surrounded by a distinct gold ring. The compact, bushy plant flowers abundantly and is more lasting than any 5c.

other annual. Pkt. 10c.



Marigold Legion of Honor

MARIGOLD-FRENCH.—The flowers are much smaller than the African but are greatly prized for bedding.

Tall French Mixed.—In shades of yellow, brown and tricolors. Height 2 ft. Pkt. 10c.

Marigold Dwarf French Mixed.—Like the above but only 10 inches high. Pkt. 10c.

African Tall Double Orange.—Beautifully formed flowers of gigantic size and bright color; height 2½ feet. Pkt. 10c.

African Tall Double Lemon.—Like the above but of a pure citrus yellow. Pkt. 10c.

African Tall Double Mixed.—Pkt. 10c.

MARVEL OF PERU (See Four O'Clock).

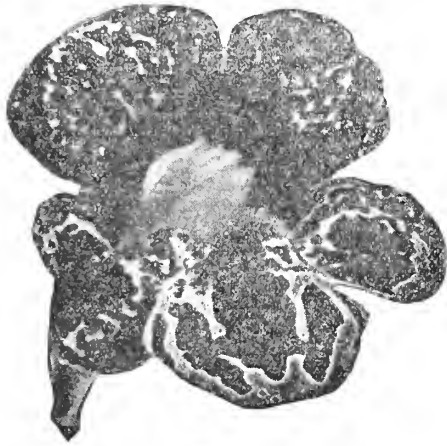
MIGNONETTE.—Hardy annual, growing 6 to 12 inches high and bearing pyramid-shaped spikes, exceedingly fragrant. Sow in the fall for early blossoms in the spring. Valuable for plotting, bedding or border.

Allen's Defiance.—Long spikes of white flowers and compact growth. Pkt. 10c.

Gethse.—Robust growing variety with enormous spikes of red colored flowers; height 15 inches. Pkt. 10c.

Machet Mixed.—A dwarf compact variety, with large stubby spikes covered with copper-red flowers, etc. Pkt. 5c.

Sweet Scented (Reseda Odorata).—Pkt. 5c (oz. 25c).



Mimulus (Monkey Flower)

MIMULUS.—A half hardy perennial, growing from 6 inches to 1 foot high. Blooms freely and exists in a large variety of colors. For gardens in a moist, shady situation. Blooms first year from seed if sown early.

Cardinalis.—Scarlet flowered perennial; 18 inches high; useful for a border; free flowering. Pkt. 10c.

Moschatus, or Musk Plant.—Fragrant plant with small yellow blossoms, spotted lightly with brown. Pkt. 10c.

Tigrinus, or Monkey Flower.—Large flowers of several colors, and spotted. Pkt. 10c.

MOMORDICA (Balsam Apple).—A climbing annual, growing about 10 feet long. Has graceful and ornamental foliage, yellow flowers and warty golden yellow fruit, with large carmine-red seeds. Balsam Apple and Balsam Pear are climbers which thrive in hot locations, and are much planted around Bakersfield. Pkt. 10c.

Charantia, or Balsam Pear.—Same as the Balsam Apple, but fruit is pear-shaped. Pkt. 10c.

MOONFLOWER (See Ipomoea).

MOURNING BRIDE (See Scabiosa).

MYOSOTIS (See Forget-Me-Not).

MORNING GLORY (See Convolvulus).

NASTURTIUM.—These favorite flowers will grow in almost any location and on all kinds of soil. The Dwarf varieties are used for bedding and borders and the Talls for climbing and covering fences, trellises, etc. They continue to bloom until cut down by the frost.

Fine Dwarf Mixed.—Height 10 inches. (Pkt. 5c) (oz. 15c).

Tall Giant Mixed.—Height 5 to 10 feet. (Pkt. 5c) (oz. 15c).

NEMOPHILA.—A hardy annual about six inches high. Has small, cup-shaped blossoms about one inch in diameter, in white and shades of blue.

Insignis (Baby Blue Eyes).—Sky blue, with white eyes. (Pkt. 5c) (oz. 25c).

NICOTIANA, OR FLOWERING TOBACCO.—A half hardy annual, growing 3 feet high, with slender tubular flower. Belongs to the tobacco family. Requires plenty of room in the garden.

Affinis.—White, and very fragrant. Pkt. 10c.

Grandiflora Purpurea.—Reddish-purple flowers. A robust ornamental variety, excellent for sub-tropical garden, height 5 feet. Pkt. 10c.

Sanderaca.—A new, large, flowering type, with various bright-colored blossoms. Pkt. 10c.

NIGELLA (or Love-in-a-Mist).—A hardy annual, one foot high, with finely cut foliage. Oddly shaped blossoms in blue and white, and curious seed pods. Of easy culture.

Miss Jekyll.—Long stemmed flowers which are of a clear corn-flower blue, elegant foliage, height 18 inches. Pkt. 10c.

OENOTHERA (or Evening Primrose).—An attractive hardy perennial border plant of dwarf compact habit, producing an abundance of bright showy flowers, in white, pale yellow, rose, etc. Of very easy culture, preferring a light dry soil.

Pine Mixed.—Height 6 inches. Pkt. 10c.

PASSION FLOWER.—A hardy perennial climber, very satisfactory for immense growth, as it will cover a porch or small cottage in one season.

Coerulea Grandiflora.—Sky-blue. Pkt. 10c.

PETUNIA.—A splendid race of plants, rich and varied colors, and profuse flowering with their charming and tender looking flowers, they are very beautiful for groups in the open. For pot culture also, Petunias are almost unsurpassed. Sow seed early in spring, scatter thinly on an even surface and barely cover the seed with sand. If intended for the open ground plant out into a frame to be kept till planting-out time. If for pots, pot singly into small pots in strong rich soil mixed with sand and shift as the plants grow larger.

Grandiflora Single Mixed.—Exceedingly handsome and free flowering, containing the greatest variety of colors, yellow throated, veined and blotched. Very large flowers. Pkt. 15c.

Hybrida Fine Mixed.—The best Petunia for massing in beds and borders, yielding a profusion of brilliantly marked flowers. Pkt. 10c.

PHLOX DRUMMONDII. Grandiflora.—A hardy annual, growing from six inches to one foot high and bearing beautiful, soft-petaled and brilliantly colored flowers all spring and summer. Fine for bedding and massing. Sow seed in the open ground.

Finest Mixed.—Pkt. 10c.

Perennial.—Indispensable for border plant. Seed saved from the finest bright colored flowers. Height, 2 feet. Pkt. 10c.

SUPERB PANSIES

Pansies thrive best in a moist, shady location and in rich loamy soil. Seed should be sown in the autumn for early spring blossoms, or can be sown early in the year for good flowers later in the spring. The plants must be transplanted twice in order to get the largest flowers; once from the seed box to a chosen bed, and again to the open garden. This is important for large size pansies; use manure liberally. The blossoms are usually larger in the spring and again in the fall, and while they bloom freely all summer, the blossoms are small during the hot months.

A. & M.'S SUPERB IN SEPARATE COLORS.

Bridesmaid Giant.—Shades of white shining rose, blotched. Pkt. 15c.

Giant Eros.—This grand novelty produces very large flowers of a deep velvety brown color, with a broad golden yellow margin. The back of each bloom has the same broad margin as the front side, while the dark velvety center is shining through. Pkt. 15c.

Faust (King of Blacks).—Large, well formed, glossy black flowers. The plants are compact and bloom for a long time. Pkt. 15c.

Giant Pale Blue.—Gigantic blooms of a delicate mauve-blue shade with paler center, freely produced on compact plants. Pkt. 15c.

Giant White (Black Eye).—Large well formed flowers with black center. Pkt. 15c.

Giant White.—Very large, well formed white flowers with dark purple eye. Pkt. 15c.

Giant Yellow (Black Eye).—Large handsome flowers of a rich yellow with black eye. Pkt. 15c.

Giant Prince Henry.—Dark blue, very large beautiful flower. Pkt. 15c.

Pansy Psyche.—Not many of the pansy varieties have such a winning appearance as Psyche. The characteristic five velvety, violet blotches are surrounded by a broad white edge. It is an ideal exhibition or market pansy. Pkt. 15c.

Giant Curled Andromeda.—A charming strain of pansy with elegantly frilled flowers, some so full as to appear double. The color is a very delicate apple-blossom, generally showing a soft lavender blue or rosy lilac hue, rendered still more effective by a somewhat darker veining. The blooms are of immense size. Unusually true to color from seed. A decided acquisition. Pkt. 20c.

Lord Beaconsfield.—Purple-velvet upper petals shading off to a light tint. Flowers large. Pkt. 15c.

Peacock.—Handsome flowers of a rich purple. Pkt. 15c.

A. & M.'S PANSY IN MIXTURES.

Benary's Non Plus Ultra.—The richest mixture ever sent out. Contains the Blotched and Masterpiece varieties. Pkt. 25c.

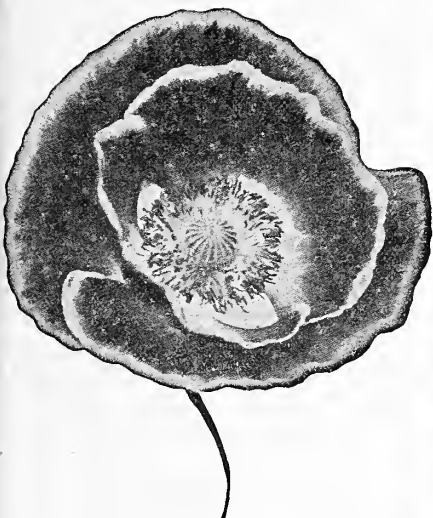
Cassiers Large Flowered Blotched.—The largest flowered class of blotched pansies. An incomparable strain, producing many beautiful and rare varieties. Pkt. 15c.

Madam Perret.—Striking and distinct variety of unusually compact habit. The lower petals are generally of canary-yellow, white or rose-pink marked with purple or crimson. The upper petals bright red and deep purple or outlined with a margin of white. Pkt. 10c.

Trimardeau or Giant Mixed.—A very showy class of vigorous compact growth, flowers of an enormous size, finest strain. Pkt. 10c.

English Mixed.—The old faced pansy plant of compact habit. Pkt. 10c.

Bedding Pansies for Massing (See Viola).



Shirley Poppy

POPPIES.—The different varieties of poppies are always favorites for outdoor display and the cultivation of them being so extremely simple entitles them to a place in every garden. Seed should be sown where the plants are intended to flower, because it is difficult to transplant them with any measure of success. During March or April sow in rows or groups and thin to about 1 foot apart.

Admiral.—Large, pure white, single Paeony flowered variety, with band of brilliant scarlet around the top. **Pkt. 10c.**

Charles Darwin.—Handsome flowers of a rich dark purple, with a large velvety black spot starting from the base of each petal. **Pkt. 15c.**

King Edward.—With this new novelty we have added to the rich collection of single annual Poppies growing 2½ feet in height, deep scarlet, shaded crimson red of gorgeous effect, which is heightened by the large black blotch adorning each petal for half its length from the base. From this sable hue the yellow anthers stand out in appropriate contrast. **Pkt. 10c.**

POPPIES.—Mixed.

Shirley.—The most charming poppy in cultivation. The blossoms are bright and showy and include an almost endless variety of colors, from pure white, pink, terra cotta, salmon, chamois, and rosy carmine, to brilliant crimson, many of the flowers being beautifully flaked or edged with white. (**Pkt. 10c**) (**oz. 25c**).

Carnation Flowered Double Mixed.—Choice assortment of brilliant colors. Flowers very double and well fringed. The plants grow to a height of 4 feet and bear immense carnation-like blooms 6 to 8 inches across. (**Pkt. 5c**) (**oz. 20c**).

Paeony Flowered Double Mixed.—Very similar to the above, but has no Carnation-like fringe. (**Pkt. 10c**) (**oz. 20c**).

Nudicaule (Iceland Poppy).—A beautiful class of dwarf Perennial Poppies, which if sown in March will flower the same year. The blossoms are borne on slender stems about 1 foot high. Useful for cutting and the flowers exhale an agreeable perfume. In colors of white, yellow and red. **Mixed, Pkt. 10c.**

We have endeavored to make this catalog one of much interest to you, and request that you do not destroy it until you get our 1920 book.

On pages 9 and 10 you will find some hints and suggestions, and on page 83 you will find much assistance in making your selection of seeds. On the inside back cover page you may learn when to plant the different varieties.

See the pages on Fertilizers and Insecticides, for you will need both in the successful growing of Flowers.



Pyrethrum Roseum

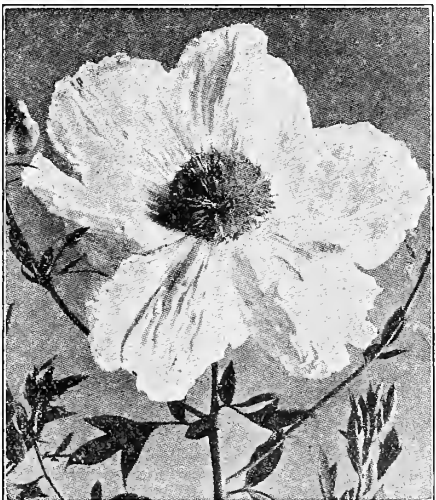
PYRETHRUM.—Handsome plants of easy culture. Invaluable for bedding purposes, especially for ribbon borders.

Golden Feather.—Fine compact habit of growth, with bright yellow foliage, largely used for edgings and ribbon borders. Height, 9 inches. **Pkt. 10c.**

Selagionides.—A distinct form with moss-like foliage, quite as bright in color as the Golden Feather and does not flower until late in the season. Height 6 inches. **Pkt. 10c.**

Roseum Hybridum.—A hardy perennial, with red petaled flowers radiating from a golden yellow center. Buhach, or insect powder, is made from the dry leaves. Useful as a cut flower. Height 15 inches. **Pkt. 10c.**

ROMNEYA COULTERII (California Tree Poppy).—Also well known as the Matilija Poppy; perennial. It is of value as a cut flower, lasting well in water, and its delicate primrose-like perfume is most acceptable. They never lose the crumpled folds that in the case of most poppies betoken newly-opened state. Flowers are four to five inches across, pure white, with a fine bunch of yellow stamens, resembling white, single Paeonys. **Pkt. 10c.**



Romneya Coulterii

PORTULACA.—Beautiful race of dwarf plants for rock work or dry sunny locations, bearing glossy cup-shaped blossoms in brilliant colors.

Double Mixed.—Saved from the finest flowers only, and will produce a large percentage of doubles. **Pkt. 10c.**

Single Mixed.—Large flowers. **Pkt. 5c.**

RICINUS (Castor Oil Plant).—Effective for semi-tropical gardens. Easily raised from seed, and should be grown in deep, rich soil.

Ricinus Gibsoni.—A very fine variety with rich, lustrous, red foliage. Height, 5 feet. (**Pkt. 5c**) (**oz. 15c**).

RUDBECKIA (Golden Glow).

Coneflower.—Fine free flowering annual variety, forming a dense bush and producing in great abundance on long stems its bright flowers. The disc is brown, the flowers golden yellow, with large variety brown spots at the base. Very effective and useful for cutting. **Pkt. 10c.**

SALPICGLOSSIS

Fine Mixed.—Highly ornamental half-hardy annual with large, veined, funnel-shaped flowers; much prized for cutting; very showy in beds or border. A bed of these beautiful plants is one of the most striking features of the garden during July and August. **Pkt. 10c.**

SALVIA, OR FLOWERING SAGE.—A tender perennial blooming the first season from seed and growing two or three feet high. The blossoms are borne on long stems in racemes or spikes, and are fragrant.

Splendens.—Gorgeous plants, with numerous flowers, which are displayed with striking effect against the deep green foliage. A bed of this flower is exceedingly beautiful during the autumn. Height, 2 feet. **Pkt. 10c.**

SCARLET FLAX (See Linum).

SCARLET RUNNER (See Beans).

SCABIOSA, OR MOURNING BRIDE.—

The tall flowers are especially adapted for cutting and massing in the garden, also good as a background where a color effect is desired. Height 4 feet.

Azure Fairy.—A beautiful shade of light blue. A great favorite. **Pkt. 10c.**

Black Prince.—A very deep purple, almost black. Unique. **Pkt. 10c.**

Crimson.—Very effective. **Pkt. 10c.**

Snowball.—Large head of lovely pure white flowers. **Pkt. 10c.**

Tall Double Mixed.—Immense flowers; very double, contains twelve or more different shades. **Pkt. 10c.**

SCHIZANTHUS.—Very beautiful and interesting annuals. This is one of the easiest annuals to raise from seed. Sow in the open where plants are to flower. Exceptionally beautiful when in full bloom and literally covered with small orchid like flowers.

Wisetonensis Choice Mixed.—An improved mixture, beautifully spotted. **Pkt. 15c.**

SENSITIVE PLANT.—An interesting plant, the leaves of which close when touched; elegant foliage; flowers pink. **Pkt. 5c.**

SHASTA DAISY (See Daisy).

SMILAX.—A perennial vine which thrives best in a shady location. Very useful for decorative purposes. **Pkt. 10c.**

STATICE, SINNUATA.—An annual deserving far greater popularity. They make a charming winter bouquet when dried and mixed with Helichrysum. In colors of white, mauve and yellow. **Mixed, Height 18 inches. Pkt. 10c.**

STATICE LATIFOLIA.—Hardy perennial with large branching heads of mauve flowers. Invaluable for the border and for drying. Height 2 feet. **Pkt. 10c.**

SWEET PEAS

We are headquarters for strictly high grade sweet pea seed; they are the best that money can buy.

Culture.—Sweet peas will thrive on most any kind of soil if enriched with well-rotted manure, but a heavy clay soil produces best results. Ample arbor should be provided to attain highest perfection of bloom. The vines will grow eight feet all and become a solid mass of bloom, which should be cut every day to prolong the life of the plant. Apply from time to time some Blood Meal fertilizer, and water abundantly, but see that there is good drainage, that the roots do not rest in wet, sour earth.

Giant Spencer Types.—Immense blossoms of the frilled and waved varieties.

American Spencer.—Scarlet striped with white. (Pkt. 10c) (oz. 30c).

Apple Blossom Spencer.—Standard bright rose, wings primrose with a flush of pink. (Pkt. 10c) (oz. 30c).

Asta Ohn, Spencer.—Soft pinkish lavender, self. Very large and wavy. (Pkt. 10) (oz. 25c).

Black Knight, Spencer.—Deep maroon, very large. (Pkt. 10c) (oz. 25c).

Blue Jacket Spencer.—A deep navy-blue. Quite distinct. (Pkt. 10c) (oz. 30c).

Clara Curtis, Spencer.—Very large, wavy cream or light primrose. (Pkt. 10c) (oz. 25c).

Countess Spencer.—"Hybrid," a very large flowered variety, a lovely shell pink. Flowers usually four on a stem. (Pkt. 10c) (oz. 25c).

Dainty Spencer.—White with pink wavy edges. (Pkt. 10c) (oz. 25c).

Elfrida Pierson Spencer.—Shell pink with immense waved blossoms. (Pkt. 10c) (oz. 30c).

Florence Morse Spencer.—Delicate blush with pink margin; very large and one of the best Spencer varieties. (Pkt. 10c) (oz. 30c).

Etta Dyke Spencer.—Very large wavy, pure white. (Pkt. 10c) (oz. 30c).

Geo. Herbert Spencer.—A large Spencer rose crimson, suffused with magenta. (Pkt. 10c) (oz. 30c).

Helen Lewis Spencer.—Bright orange salmon. Very large, beautifully waved. (Pkt. 10c) (oz. 30c).

King Edward Spencer.—Most beautiful and richest of all the red shades. This large beautiful waved flower stands by itself, a bright crimson. (Pkt. 10c) (oz. 30c).

Loyalty Spencer.—Bright blue striped on white. (Pkt. 10c) (oz. 30c).

Margaret Madison Spencer.—Beautifully waved, light blue. (Pkt. 10c) (oz. 30c).

Mrs. Hugh Dickson Spencer.—Beautifully wavy apricot on cream. (Pkt. 10c) (oz. 30c).

Mrs. Rutzahn Spencer.—A beautiful blending of straw color, tinted with blush pink and shading to apricot and rose at edges. (Pkt. 10c) (oz. 30c).

Othello Spencer.—Deep rich maroon, very dark and adapted for many attractive combinations. (Pkt. 10c) (oz. 30c).

Wedgewood Spencer.—As named, a rich wedgewood blue. (Pkt. 10c) (oz. 30c).

Giant Spencer Mixed.—A splendid mixture of all the different Spencer types. (Pkt. 10c) (oz. 25c).

CUPID OR DWARF SWEET PEAS.—The Cupid varieties are very showy and splendid for bedding. Height six inches. Plant the seed six inches apart. Mixed.—(Pkt. 5c) (oz. 25c).

WINTER FLOWERING SWEET PEAS.—A valuable race of early flowering sweet peas, which from a September sowing will give an abundance of blooms from Christmas onward. On account of their delightful perfume, sweet peas are particularly welcome during the days of winter.

A. & M. Xmas Dark Blue.—(Pkt. 5c) (oz. 25c).

A. & M. Xmas Lavender.—(Pkt. 5c) (oz. 25c).

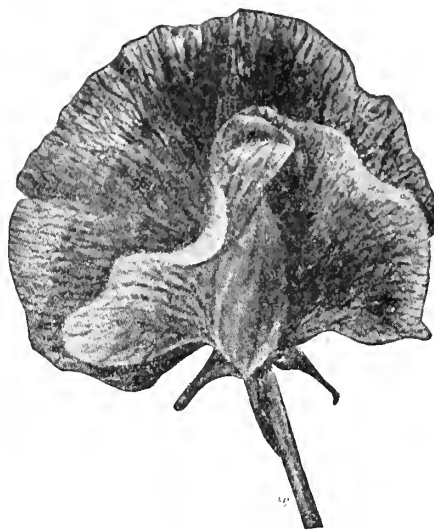
A. & M. Xmas Pink and White.—(Pkt. 5c) (oz. 25c).

A. & M. Xmas Soft Pink.—(Pkt. 5c) (oz. 25c).

A. & M. Xmas White.—(Pkt. 5c) (oz. 25c).

A. & M. Xmas Mixed.—(Pkt. 5c) (oz. 25c).

Perennial or Everlasting (See Lathyrus).



Othello Spencer

Selected Grandiflora Types.—The hooded type of Sweet Peas which are much more fragrant than the Spencers though lacking in size of bloom.

Blanche Ferry.—Rose standard, tinted with light pink. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Brilliant Blue.—A dark stain of navy blue. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Dorothy Eckford.—White, large shell-shaped. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Hon. E. Kenyon.—A fine large primrose yellow. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

King Edward, Seventh.—Bright showy scarlet. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Lady Grisel Hamilton.—Delicate silvery lavender. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Miss Willmott.—Bright orange pink showing veins of deeper pink. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Othello.—Deep maroon, very large, finest type. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Prima Donna.—The most popular clear pink hooded. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Prince of Wales.—Popular rose colored. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Phenomenal.—White, with a distinct blue edge. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Senator.—Striped, chocolate and white. Unique. (Pkt. 5c) (oz. 20c) (¼ lb. 50c).

Mixture representing all shades.—(Pkt. 5c) (oz. 15c) (¼ lb. 40c) (lb. \$1.50).

NEW GIANT SPENCER OF GREAT MERIT

Fiery Cross.—Giant waved flowers of an intense Orange Scarlet. The color is not at all affected by our hot California sunshine and therefore needs no shading.

Constance Hinton.—A giant frilled Black-Seeded White. The stems, bearing four immense blossoms, are often 12 inches in length. Undoubtedly the best White Sweet Pea.

New Buttercup.—The nearest approach to a yellow Sweet Pea ever introduced. The blossoms are of a Rich Deep Cream, giants in size and are beautifully waved and frilled.

The Cardinal.—This is by far the best red Sweet Pea on the market. The color is an intense Poppy Scarlet, resembling for brilliance the Poinsettia. The giant blossoms will not burn in the hottest sunshine.

Warrior Spencer.—Deep Chocolate, almost Black, unequalled for mixing with other shades for bouquets and table decoration. The darkest Sweet Pea yet introduced.

Each of the above (20c a pkt.). One of each for 85c.

STOCKS

STOCKS (Ten Weeks' Stocks, or Gilliflowers; Levoye).—The Stock is one of the many popular plants used for bedding. For brilliancy and diversity of color, fragrance, profusion and duration of bloom it is unsurpassed.

Sow the seed in pans or boxes and transplant when large enough to an open sunny location. Be careful to save the weak and delicate plants, as these usually throw the best doubles. It is also a good idea to plant rather thickly so that the singles can be weeded out as they appear. The seed can only be saved from single flowers, but as we purchase from the most reliable growers our Stocks produce a large percentage of double.

Dwarf Double Ten Week.—This dwarf variety is splendid for edging, carpet bedding, borders, and cut flowers. The different shades make very pleasing color effects. Height 12 inches.

White.
Crimson.
Canary Yellow.
Light Blue.
Dark Blue.
Finest Mixed.

Each.—Pkt. 10c.

Perpetual Princess Alice.—A pure white stock of branching habit, very useful for cutting. Height 2 ft. Pkt. 15c.

Giant Perfection or Dresden.—Of branching habit with long stems which makes this variety very useful as a cut flower. The mixture contains 8 or more different colors. Height 2 ft. Mixed.—Pkt. 10c.

STOCK, NICE.—An intermediate type, very useful for winter flowering if planted in the fall. Seed sown in February or March continue to bloom well on into the summer. Height 18 inches.

Nice, Giant Almond Blossom.—Quick growth with flowers of a very large size. The color is white shaded carmine. Pkt. 15c.

Nice, Giant Beauty of Nice.—Delicate flesh pink spikes of double flowers. Pkt. 15c.

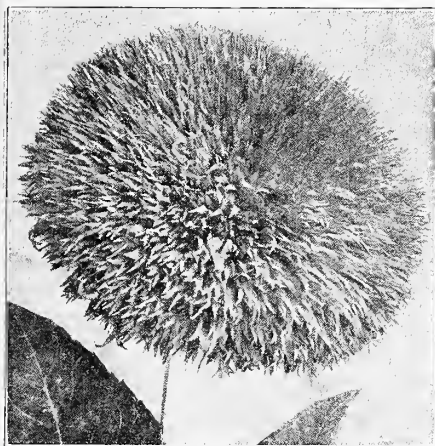
Nice, Giant Crimson King.—Long spikes, of a rich crimson color. Pkt. 15c.

Nice, Giant Empress Elizabeth.—Immense spikes of a rich bright rose. Pkt. 15c.

Nice, Giant Cote d'Azur.—Light violet blue, a very desirable shade. Pkt. 15c.

Nice, Monte Carlo.—Canary yellow. Pkt. 15c.

Nice, Finest Giant Mixed.—All colors. Pkt. 15c.



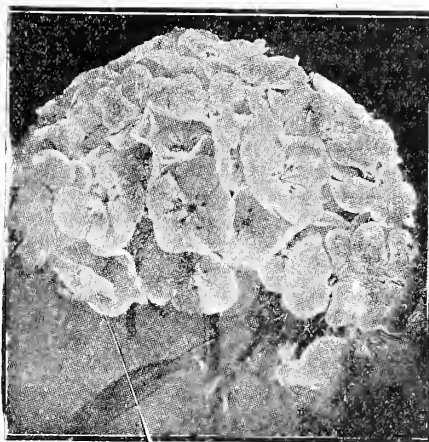
California Double Sunflower

SUNFLOWER (*Helianthus*).—Stately, hardy annuals of easy culture. Useful for background, or as a fence and often grown for the seed. Height 6 to 8 feet. **California Double**.—Large, massive, bright yellow flowers, height 6 feet. Pkt. 10c.

New Red Sunflower is a very apt description of this new variety. The plant is of freely-branching habit, with well-shaped dark-centered flowers of bright chestnut red, merging to yellow at the tips of the petals; height 6 feet. Pkt. 15c.



New Red Sunflower



Sweet William

SWEET WILLIAM (*Dianthus Barbatius*). A hardy perennial blooming the second year from seed. Grows one to two feet high and bears its flowers in clusters, at the end of a stiff stem. The individual flowerets are handsomely colored and marked. It makes a beautiful bedding plant, and is of easy culture.

Single Varieties, Mixed.—Very attractive. (Pkt. 5c) (oz. 50c).

Double Varieties, Mixed.—Pkt. 10c.

SWEET SULTAN (See *Centaurea Imperialis*).

TROPAEOLUM CANARIENSIS (See *Canary Bird Flower*).

VIOLET.—Hardy perennials, blooming freely throughout the summer and autumn. Of easy culture.

Coronata Purple.—Fine, rich, purple. Pkt. 10c.

Coronata White.—Pure white flowers, freely produced. Pkt. 10c.

The Czar.—Large, fragrant, deep violet flowers. Pkt. 10c.

Princess of Wales.—Largest flowering deep blue. Pkt. 10c.

Violet.—Single, Sweet-scented. Pkt. 10c.

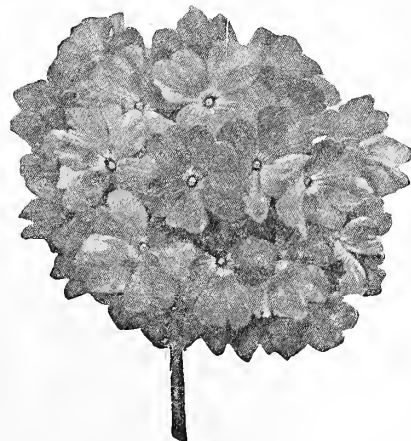
VERBENA.—A half hardy trailing perennial of easy culture. It is well known as a bedding or border plant, and the improved large flowered and fragrant strains make it a handsome cut flower for low vases.

Mammoth Flowered, Mixed.—(Pkt. 10c) (¼ oz. 35c) (oz. \$1.25).

Mammoth Rose Queen (new).—Large brilliant rose. A splendid bedding plant. Pkt. 20c.

Pink Shades.—Mammoth strains of rose and pink shades. (Pkt. 10c) (¼ oz. 35c) (oz. \$1.25).

Pure White.—Mammoth strain. (Pkt. 10c) (¼ oz. 15c) (oz. \$1.25).



Verbena Rose Queen

Purple and Blue Shades.—Mammoth strain. (Pkt. 10c) (¼ oz. 5c) (oz. \$1.25).

Scarlet Defiance.—Brilliant scarlet. (Pkt. 10c) (¼ oz. 35c) (oz. \$1.25).

WALL FLOWER.—These delightfully fragrant flowers are indispensable for every garden. Height, 18 inches. Annual Mixed. Pkt. 10c.

WILDFLOWER MIXTURE.—For planting on vacant lots, etc. (Pkt. 5c) (oz. 20c).

GIANT ZINNIA

ZINNIA—Giant Double. Facts about this wonderful Annual.

The large double blooms often measure 5 inches across. Blooms continuously from April to October. Individual blooms last 6 weeks on the plant without fading. One of the easiest Annuals to raise from seed.

Giant Double White.—Pkt. 15c.

Giant Double Pink.—Pkt. 15c.

Giant Double Yellow.—Pkt. 15c.

Dwarf Double Mixed.—A valuable class only about fifteen inches high, very free blooming; flowers as large as the ordinary double Zinnia. Pkt. 10c.

Giant Double Scarlet.—Pkt. 15c.

Giant Double Purple.—Pkt. 15c.

Giant Double Mixed.—Pkt. 10c.

TREE AND SHRUB SEEDS

SMALL TREES IN FLATS

Eucalyptus—*Tereticornis*, *Rostrata*, *Globulus* and *Corynocalyx*. Price—\$2.00 per flat of 100 trees, \$15.00 per 1000 trees, f. o. b. here.

Globulus (*Tasmania Blue Gum*). (Pkt. 15c) (oz. 50c).

Corynocalyx (*Sugar Gum*). (Pkt. 15c) (oz. \$1.00).

Robusto (*Swamp Mahogany*). (Pkt. 15c) (oz. 60c).

Rostrata (*Red Gum*). (Pkt. 10c) (oz. 50c).

Rudis (*Desert Gum*). (Pkt. 20c) (oz. \$1.00).

Tereticornis (*Gray Gum*). (Pkt. 15c) (oz. 75c).

CYPRESS

Macrocarpa (*Monterey Cypress*). (Pkt. 10c) (oz. 20c).

Sempervirens (*Italian Cypress*). (Pkt. 10c) (oz. 30c).

Pinus Canariensis (*Canary Island Pine*). (Pkt. 10c) (oz. 35c).

Insignis (*Monterey Pine*). (Pkt. 10c) (oz. 35c).

Lambertiana (*Sugar Pine*). (Pkt. 10c) (oz. 35c).

Sequoia Gigantea (*California Big Tree*). (Pkt. 15c) (oz. 75c).

Sempervirens (*California Redwood*). (Pkt. 10c) (oz. 50c).

ACACIA

Aecia Baileyana.—(Pkt. 10c) (oz. 50c).

Cultriformis (*Kuife Leaved Acacia*).—(Pkt. 10c) (oz. 35c).

Dealbata (*Silver Wattle*).—(Pkt. 10c) (oz. 35c).

Floribunda.—(Pkt. 10c) (oz. 40c).

Lophantha (*Crested Wattle*).—(Pkt. 5c) (oz. 15c).

Melanoxlyn (*Blackwood*).—(Pkt. 10c) (oz. 35c).

CONIFER—CEDAR

Libani (*Cedar of Lebanon*).—(Pkt. 10c) (oz. 50c) (lb. \$5.00).

Cryptomeria Elegans.—(Pkt. 10c) (oz. 50c).

Japonica (*Japan Cedar*).—(Pkt. 10c) (oz. 30c).

Juniperus Virginia (*Red Cedar*).—(Pkt. 10c) (oz. 25c).

PALMS

Chamaerops Exeelsa (*Windmill Palm*).—(Pkt. 5c) (oz. 10c) (lb. \$1.00).

Corypha Australia (*Australia*).—(10 seeds 10c) (100 seeds 75c).

Phoenix Canariensis (*Canary Island Palms*).—(10 seeds 10c) (100 seeds 75c).

Washington Filifera.—(Pkt. 5c) (oz. 10c) (lb. \$1.00).

Washingtonia Robusta.—(Pkt. 5c) (oz. 25c) (lb. \$2.50).

MISCELLANEOUS

Camphor Officinalis (*Camphor Tree*).—(Pkt. 10c) (oz. 25c).

Grivillea Robusta (*Silk Oak of Australia*).—(Pkt. 10c) (oz. 40c).

Jacaranda Mimosaeifolia (*Brazilian Jacaranda*).—(5 each) (Per dozen 40c).

Magnolia Grandiflora.—(Pkt. 10c) (oz. 35c).

Schinus Molle (*Mexican Pepper Tree*).—(Pkt. 5c) (oz. 10c).

Melia Umbraeniformis (*Texas Umbrella Tree*).—(Pkt. 5c) (oz. 10c).

Robinia Pseudacacia (*Black Locust*).—(Pkt. 5c) (oz. 10c).

Wil Sour Orange.—(Per gallon, \$6.00) (per bushel \$45.00 f. o. b. here).

Sweet Orange Seed.—(Per gallon, \$3.00) (per bushel \$23.00 f. o. b. here).

Bitter Almond.—(Per lb. 30c postpaid) (10 lbs. or more 25c per lb. f. o. b. here).

Myrobalan Plum.—(Per lb. \$1.00).

California Wild Walnut.—(Per lb. 25c prepaid).

Apricot.—(Per lb. 20c postpaid) (10 lbs. 50c f. o. b. here).

Peach.—(Per lb. 15c postpaid) (10 lbs. 50c f. o. b. here).

PLANT DEPARTMENT

No plants sent by mail or express. See page 11.

We have during the season at our main store at 620 S. Spring St., and at our Branch Store, 767 So. Central Ave., a full assortment of Citrus Trees, also Berry Plants of all the popular varieties for home gardens, and roots of Rhubarb, Asparagus and Horseradish. Prices obtained at the store.

PERSIAN GRAPES

We are again offering some one-year-old rooted cuttings of the Persian Grapes introduced by us in 1916. We claim that these varieties are new to California and that they have exceptional merit in flavor and size, also that all these varieties are thriving on soil so alkaline that apple trees will not grow and the blue alkali weed is abundant. Read the description of each.

Karum



Actual Size

Black Damson



Actual Size

Hamadan



Actual Size

Karum (From the Valley Karum, Persia). A long white grape of delicious flavor and so few having seeds that it is almost a seedless variety, forming enormously large clusters. It is a good keeper and should prove a good shipping variety.

Black Damson The exceptional merit of this variety is its good flavor, enormous productiveness, even bearing the first year from cuttings, and its hardness to resist cold, heat, winds, and on account of the hardy skin, it is likely to prove a better shipper than any of the known varieties.

Hamadan (From the Valley of Hamaden, Persia). For table use probably the best of the three. Compares with the Muscat, but much superior in every respect. It is almost seedless, and should prove a good shipper.

All three varieties are deliciously sweet, and when properly trellised are enormously prolific; ideal for the grower of table grapes, and every home garden should have one of each of these grapes.

One year old rooted vines, any variety, 50c. One each of the three varieties, \$1.25.

GRAPES, LOCAL VARIETIES

One year old rooted cuttings. Muscat, Red Emperor, Black Morocco, Rose of Peru, Black Hamburg, Cornichon, Thompson Seedless, Tokay, Eastern Concord (Each 15c) (dozen \$1.50).

CITRUS TREES

Lue Gm Gong Orange	.....\$3.00
Washington Navel	..... 1.50
Valencia	..... 1.50
Tangerine	..... 2.50
Eureka Lemon	..... 1.50
Pomelo (Marsh Seedless)	..... 2.00

BERRIES

Blackberries Thornless, .40c each, 3 for \$1.00. Mammoth, Himalaya, Crandall's. (3 for 25c) (per dozen 75c).

Raspberries St. Regis, Cuthbert, Surprise, Black-cap. (3 for 25c) (Per dozen 75c).

Dewberries Gardena, Mortgage Lifter. (3 for 25c) (Per dozen 85c).

Phonominal Berry (3 for 25c) (Per dozen 75c)

Logan Berries (3 for 25c) (Per dozen 75c).

STRAWBERRIES

Northern Grown Plants

ETTERSBURG NO. 80—(Per doz. 50c) (25 plants 75c) (100 plants \$1.00) (1000 plants \$12.00).

BANNER AND NEW OREGON—(25 plants 50c) (100 plants \$1.00) (1000 plants \$10.00).

Local Grown Plants

KLONDIKE AND BRANDYWINE—(50 plants 75c) (100 plants \$1.00) (1000 plants \$7.00).

Ask for Flowering Plants—for Vegetable Plants see page 11.

Guava Strawberry (Per plant 25c) (3 for 50c. Feljoa Sellowana (12ln- plant 75c each) (Seed, pkt. 15c).

Lawn and Garden Requisites

On this page we can only hint at some of the lines we carry, trusting you will, if interested, write and inquire for more information. We carry a full line of Lawn Mowers, Garden Hoes, Pruning Knives, etc.

GARDEN TOOLS--See Pictures

- No. 1. Water's Tree Pruner, 4 to 10 ft. \$2.00 to \$2.50.
 No. 2. Pond's Handy Garden Tool, 35c. By mail 45c.
 No. 3. Excelsior Weeder, 20c. By mail 30c.
 No. 4. Tree Pruner, all sorts, from \$1.25 to \$3.00.
 No. 5. Garden Trowels, all kinds, from 25c to 75c.
 No. 6. Grass Hooks, or Sickles, 5c, 65c, 75c.
 No. 7. Dibble, 75c. By mail 85c.
 No. 8. Pruning Saws, double and single edge, \$1.50.
 No. 9. Havil's Weeder, 50c. By mail 60c.
 No. 10. Hedge Pruners, \$1.50 to \$3.00 each.
 No. 11. Pruning Shears, from 75c to \$3.50 each.
 No. 12. Scuffle Hoe, 8-in., 95c; 12-in. \$1.35.
 No. 13. Ohio Wire Rake, \$1.25.
 No. 14. Hoe and Rake combined, \$1.00.
 No. 15. All Steel Rake, \$1.25.
 No. 16. Warren Hoe, \$1.25.
 No. 17. Turf Edger, \$1.00.
 No. 18. Steel Spade, \$1.50.
 No. 19. Spading Fork, \$1.50.
 No. 20. Potato Hooks, \$1.50 to \$2.00.
 No. 21. Garden Hoes, from 4 to 10 in., 75c to \$1.25.
 No. 22. Steel Shovels, \$1.50 to \$2.50 each.
 No. 23. Manure Fork, \$1.35, May Fork \$1.75.

Balling Spades--\$2.25.

Ladies' Garden Sets--Made of best material, Per Set \$2.50.

LAWN MOWERS

Capitol Lawn Trimmer and Edger--Does what Lawn Mowers leave undone. Having one side without wheel, it can be run close to walls and trees, cutting grass clean and quick. Can also be used for trimming edges of walks, etc.; 4 steel blades, 6 in. wide. See No. 1. Price \$10.00 complete.

Lawn Mowers--The following is a list of our high-grade ball-bearing Lawn Mowers. They are made of drop forged steel throughout and are very easy running machines. See Nos. 2 and 3.

Lassen--8-in. wheel--
 14 inch\$9.50
 16 inch 10.00

Nenox--9-in. wheel--
 14 inch\$10.50
 16 inch\$11.00

Grass Catchers--14 and 16 inch galvanized iron bottoms, \$1.50 each.

GARDEN HOSE

Owing to the general dissatisfaction of selling cheap and inferior hose, we have discarded all brands except those that have sold for a number of years and have proven satisfactory.

No. 4. A & M Moulded Hose is equal in quality to the highest priced grades and none is superior. ½ in. 18c; ¾ in. 19c; 1 in. 20c.

Hose Washers, per doz. 20c postpaid.

No. 5. The Cooper Brass Hose Mender, 30c each prepaid.

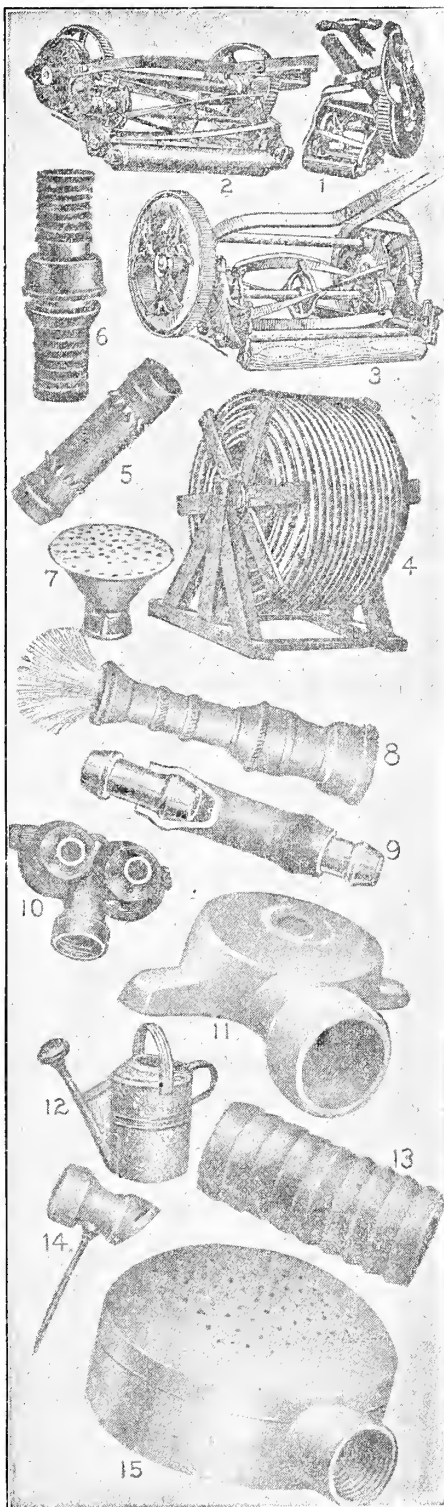
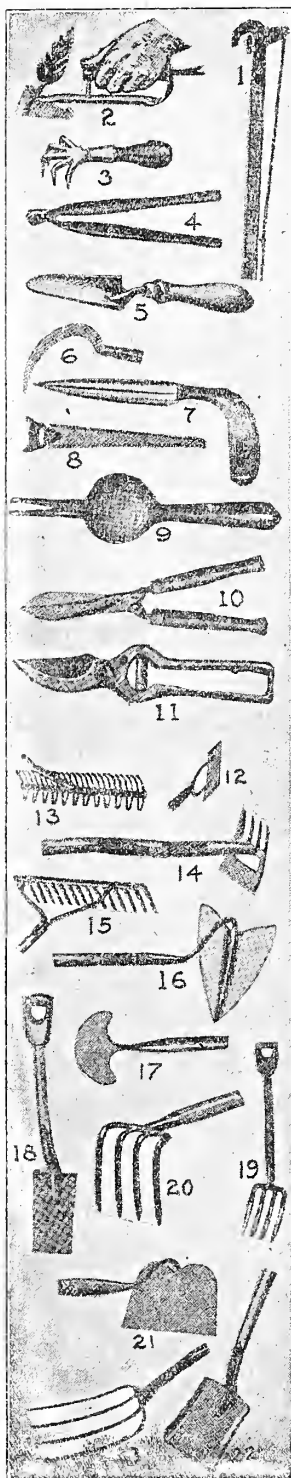
No. 6. Brass Hose Couplings, ½ in. or ¾ in. Per pair 50c, prepaid.

No. 12. Sprinkling Can, 6 qts. \$1.50; 8 qts. \$1.70; 10 qts. \$1.90; 12 qts., \$2.00. F. o. b. here.

No. 13. Brass Hose Menders, 25c prepaid

No. 14. Fan Sprinkler, 40c prepaid.

No. 15. The Fountain Sprinkler, \$1.50 prepaid.



No. 7. The Rose Nozzle, 85c prepaid.

No. 8. Boston Nozzle, 90c prepaid.

No. 9. Wooden Hose Mender, 25c per dozen prepaid.

No. 10. Twin Sprinkler, 50c prepaid.

No. 11. Wilgus Sprinkler, 50c prepaid.

NURSERY AND FARM REQUISITES—(Continued)

Pennsylvania Fruit Picker



Pennsylvania Fruit Picker

No ranch is completely equipped without this valuable tool. It is always the choicest fruit that cannot be reached from the ladder, you do not wish to knock it down with a club, as the fall would bruise it. Use the Fruit Picker and the fruit is caught in the pocket prepared for it. Every ranch that has half a dozen or more fruit of walnut trees should have one or more Pennsylvania Fruit Pickers. Price 50c. By mail 65c.

Asparagus Knife.—Price 50c, by mail 65c.

Asparagus Moss.—We always have on hand a large supply of moss for asparagus shippers. Price on application.

CLAY FLOWER POTS

Flower Pots.—(2 in. 25c doz.) (3 in. 35c doz.) (4 in. 50c doz.) (5 in. 75c doz.) (6 in. \$1.00 doz.) (7 in. \$1.25 doz.) (8 in. \$1.75 doz.) f.o.b. here.

SEWING TWINE

No. 1.—Per lb., \$1.00; Bbl. 12 lbs., \$11.40.

Yucca Tree Protectors

The Yucca Tree Protector is made from the soft spongy Desert Palm, and will last years exposed to the weather. Wires go entirely around the protector, thus holding it in place, even should it crack a little while in use. Protect your trees against the hot rays of the sun, rabbits, gophers, and be sure to use this protector if bothered with Tree Borer.



Yucca

Size	Lbs.	Per 1000	Per 100
		Price	Price
14 in.	90	\$11.50	\$1.50
18 in.	125	13.00	1.50
24 in.	150	16.50	2.00
30 in.	200	19.00	2.25
36 in.	250	23.50	2.75



Expan

PARAFINE PAPER

These Protectors are perforated, giving a free circulation of air around the tree trunk. The Parafine preserves the paper, making the Protector very durable. Will not split or tear.

Size	Lbs.	Per 1000	Per 100
		Price	Price
14 in.	50	\$11.50	\$1.50
18 in.	65	13.00	1.50
24 in.	85	16.50	2.00
30 in.	106	19.00	2.25
36 in.	127	23.50	2.75

All prices f. o. b. Los Angeles

Grafting Wax.—(1/4 lb. 20c) (1/2 lb. 30c) (1 lb. 45c) postpaid.

Balling Twine.—(5-lb. ball \$1.50).

Budding Twine.—(Per ball 35c). Postpaid 45c.

Budding Cloth.—(Per square yard 50c, prepaid).

POT LABELS

Plain	100	1000	Painted	100	1000
4.....	20c	\$1.00	4.....	15c	\$1.25
5.....	25c	1.25	5.....	30c	1.25
6.....	30c	1.50	6.....	35c	1.65
8.....	60c	2.75	8.....	75c	2.95

TREE LABELS.—Copper wired and painted:

3 1/2 inch 50c per 100 \$1.95 per 1000

HANGING BASKETS.—Earthenware:

7 inch.....	8.35	10 inch.....	\$8.75
8 inch.....	50	14 inch.....	1.50

All prices f. o. b. Los Angeles

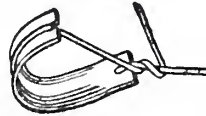
HANGING BASKETS.—Wire:

10 inch..... 50c 12 inch..... 75c

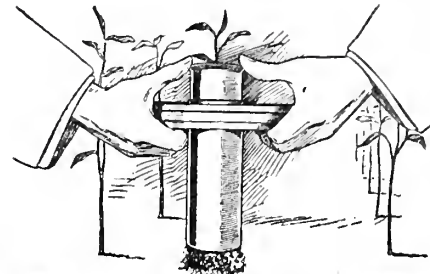
WALL POCKETS.—Wire:

10 inch..... 65c 12 inch..... 85c

THOMPSON'S TREE SUPPORT



Place the supports above projecting branches on the limb to secure them against slipping down. These supports are out of the way of everything. They are perpetual. There is no



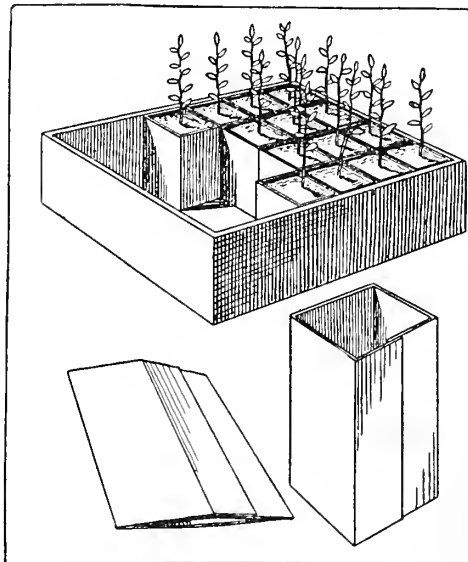
Taken out of here - to be set in here
TRANSPLANTER

further expense after putting on. The proposition is simply to make opposite limbs support each other, or the center limbs to support the outer limbs, thus doing away entirely with the ordinary wooden prop. (Per 100, \$2.50) (1000 \$22.50) Weight 10 to a lb.

TRANSPLANTER

A Transplanter that does the work without disturbing the roots. It first makes the hole where you wish the plant, then picks up the plant, root and all, without disturbing its growth. A child can operate it. Just the thing for Eucalyptus growers and nurserymen. (50c) (by mail 60c).

The Expan Planting Pot



Made of heavy tar paper. Open top and bottom. For propagating plants, trees and shrubs — no waste space — no breakage. For the nurseryman, florist and market gardener. You can grow melons, squash, cantaloupes, cucumbers, etc., three weeks earlier in these pots than out in the open. When setting the plants in the field plant the pot and all, leaving the pot about one inch above the top of the soil; this protects the tender plant from cutworms, wire worms, moles and field mice.

THE EXPAN PLANTING POT

Size	Price per 1000	Price per 100	Wt. per 1000
4x8	\$12.00	\$1.50	90 lbs.
4x6	8.95	1.25	88 lbs.
3x8	5.95	1.00	85 lbs.
3x6	4.75	1.00	66 lbs.
3x5	4.15	1.00	55 lbs.
3x4	3.45	1.00	44 lbs.
3x3	3.15	1.00	33 lbs.
2x8	4.20	.75	58 lbs.
2x6	3.45	.75	44 lbs.
2x5	3.20	.75	37 lbs.
2x4	3.00	.75	29 lbs.
2x3	2.75	.75	22 lbs.
1 1/2 x 5	2.95	.50	28 lbs.
1 1/2 x 4	2.80	.50	22 lbs.
1 1/2 x 3	2.45	.50	17 lbs.

All prices f. o. b. Los Angeles

RAFFIA. We have been unable to secure Raffia for the past year and as a substitute we are offering Argentine Fibre, which is very similar. Most gardeners are using this in preference to the tape. Price per lb. 50c.

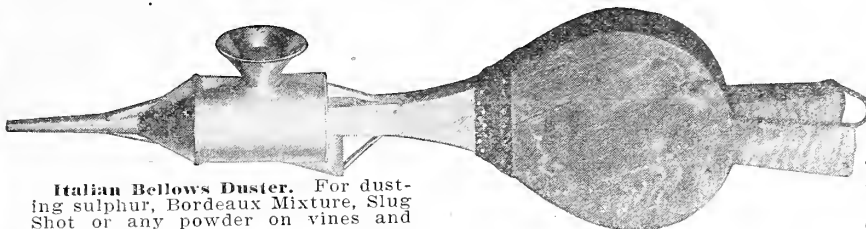
GREEN MOSS.—Per lb. 20c, bales \$9.00, f. o. b. Los Angeles.

SPAGNUM MOSS.—For packing plants, trees, asparagus, etc. Per bale \$3.50.

NURSERY AND FARM REQUISITES—(Continued)



Sulphur Duster
½ gal. 60c; by
mail 70c



Italian Bellows Duster. For dusting sulphur, Bordeaux Mixture, Slug Shot or any powder on vines and plants.

No. 1—\$1.60, wt. 3 lbs. No. 2—\$2.25, wt. 4 lbs.
No. 3—\$3.00, wt. 5 lbs.
F. o. b. Los Angeles



Jumbo Powder Blower. To eradicate fleas, bed bugs, etc., use this blower. Also excellent for dusting house plants. By mail 35c.

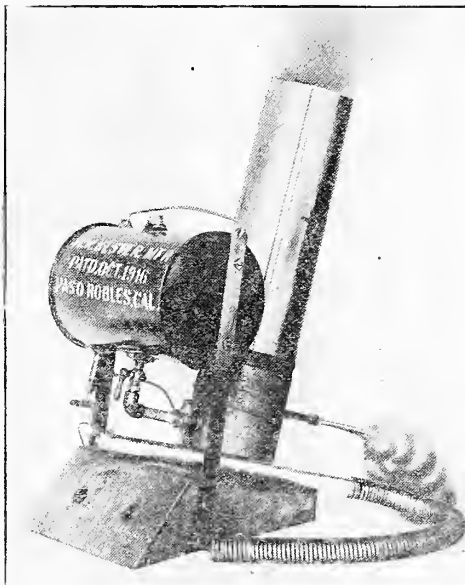
Eureka Squirrel Exterminator



Eureka Squirrel Exterminator

With the use of carbon bi-sulphide, this is the best and cheapest implement with which to eradicate the squirrel pests on your land. We can confidently recommend the use of this machine in vineyards, orchards, grain fields, pasture lands, etc. It is of simple construction, best galvanized sheet steel with bellows attached. The working of the bellows causes the carbon bi-sulphide in the machine to generate a gas, which is forced into the burrows of the squirrels, thus killing them instantly. The exterminator forces no liquid into the runs, only the gas, thereby saving 75% of the carbon bi-sulphide, over the old way of saturating balls of cloth or cotton. A colony of squirrels can soon destroy \$50.00 worth of vegetation. **Price \$9.00.** Weight, crated, 12 lbs.

Kester Automatic Vaporizer

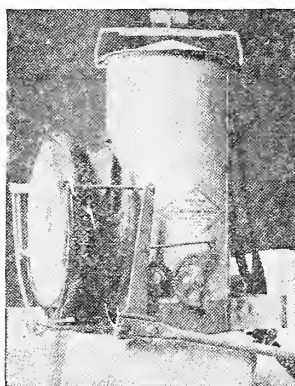


For killing squirrels, gophers, etc. Safer and more efficient than poison, traps, and all other methods combined. It works automatically, forcing distillate vapor, which is heavier than air, into the bottom of the burrows. The vapor is inhaled by the rodents and the young and old die in a few minutes. This machine has been tested and proven to be the most efficient and cheapest method of exterminating ground rodents by the U. S. Health Service, San Francisco, Cal.; Los Angeles County Horticultural Commission; L. R.

Alderman, Pasadena, Cal., professional pest destroyer, used six machines on 750 acres. These machines are guaranteed to do the work when the directions are carefully followed. **Price \$22.50 f. o. b. Los Angeles.**

Lowell's Powder Sprayer.—A successful hand sprayer for sulphur and all powder disinfectants. Capacity one quart. The cheapest and best small powder sprayer on the market. Just right for home gardens. **Price \$1.00.** Wt. 3 lbs.

We carry a full line of repairs and nozzles for our pumps. When ordering pumps or sprayers, remember all prices are quoted F. O. B. Los Angeles.



American Beauty Duster

AMERICAN BEAUTY DUSTER
The best dry powder duster on the market. For Orchard, Vineyard, Garden and Field. If interested write for circular.

Because of its bellows capacity, it can be used where no other knapsack sprayer could possibly reach.

Its spiral agitator and fine screens cause it to deliver a finer dust than any other machine, hence it is more thorough and economical.

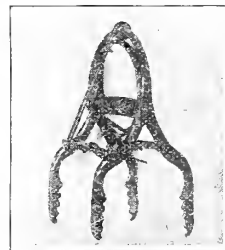
It is built on correct principles and has been used under the most severe conditions, with remarkable success.

Our hundreds of satisfied customers are our best advertisement.

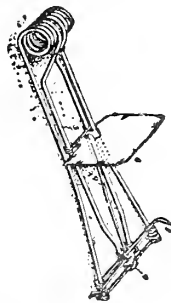
Standard size, wt. 14 lbs., \$18.00.

Out-O-Sight Mole Trap

This trap has been in use for a number of years and is the most successful Mole Trap patented. It is placed over the runway in such a manner that it catches the mole if he travels in either direction. **Price \$1.15 by mail.**



Out-O-Sight Mole Trap



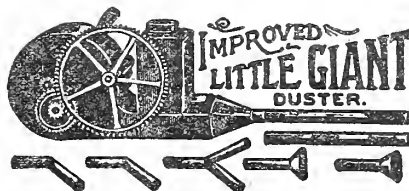
Macabee Gopher Trap

MACABEE GOPHER TRAP
This is the most convenient gopher trap yet manufactured. It is easy to set, small and can be extended far down into the hole. **Price, postpaid, 35c.**

BOX GOPHER TRAP. This trap is used extensively by Japanese and Chinese gardeners. Is easy to set and sure. **Price, by mail, 35c.**

STEEL GAME TRAPS. All sizes. When ordering, state what game you wish to catch. **Prices, 25c to \$1.00.**

EASY SET MOLE TRAP catches them going and coming. A child can set it with perfect safety. **Price, 75c; prepaid \$1.00.**



LITTLE GIANT DUSTER

The best dry powder gun; will distribute any dry insecticides and fungicides. Will do as much work in a day as a horsepower sprayer. Dusts two rows at once. Weight, packed, 15 lbs. **Price \$12.00.**



Easy-Set Mole Trap

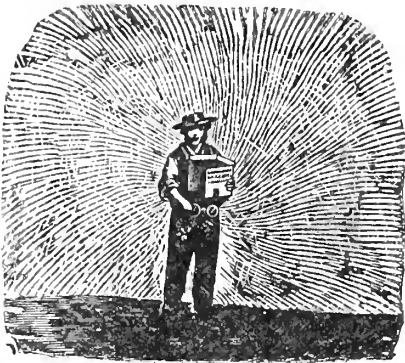
NURSERY AND FARM REQUISITES—(Continued)

When wanted by Mail, add postage. See inside front cover page.

We have enumerated only a few of the specialties we carry. We have always on hand a full line of garden tools of every description, and for every conceivable purpose. Ask for anything you may want in this line. We have it.

Cahoon Seed Sower

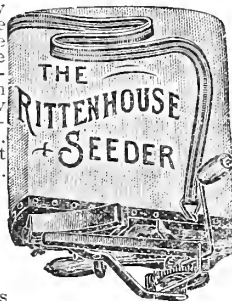
The Standard Sower, acknowledged to be superior to all other hand sowers. Gives perfect satisfaction and can be used for sowing alfalfa and grains broadcast. Sows from four to eight acres per hour at a common walking gait. A saving of four-fifths of the labor and one-third of the seed by its use. A person entirely unaccustomed to sowing by hand can use this machine with perfect success. Price—\$5.00, f. o. b. here. Weight crated, 8 lbs. Can be sent by mail.



Cahoon Seeder
Weight crated 8 lbs.

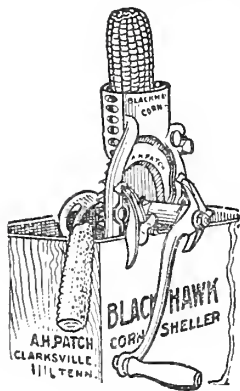
Black Hawk Corn Sheller

Shells easily, and rapidly separates the cob from the corn. We give it special recommendation to poultry men. Price—\$3.50 f. o. b. here. Weight 20 lbs. packed.



Rittenhouse Seeder

It has its right side concave in shape and rests nicely against the body just above the hip. The crank shaft being above the distributing wheel brings both hands to nearly a level and gives the operator the easiest position possible.



Corn Sheller

It sows evenly all kinds of grass seeds, grains and fertilizers. Clover is thrown a width of 18 ft.; timothy, 15 ft.; alfalfa, 20 ft.; wheat, 25 ft.; oats, 18 ft.; millet, 18 ft. An operator can sow from 40 to 50 acres per day. Price—\$2.00 f. o. b. here. Weight 9 lbs.

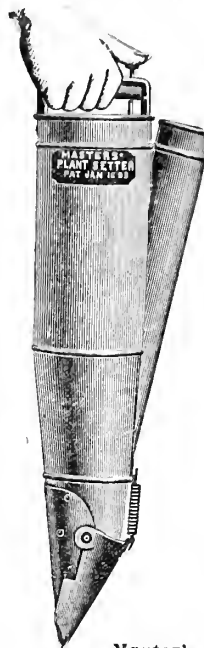
BLACK HAWK FEED MILL

Grinds all kinds of grain fine or coarse. Price \$3.75 f. o. b. here.

In these times when intensive farming is so necessary to avoid the actual famine that will surely follow if we cannot wisely avert it, we must employ every agency possible to make up for the shortage of labor and to promote the greatest production from individual effort on the least area of ground. Therefore, select wisely the machinery and tools suitable to the task you have at hand. The man with as little as twenty acres will find it profitable to own a tractor and that it is more economical than to do all the work with a horse. But, the horse is as necessary as the plow and harrow on any plot above one acre. It is the one to five-acre gardener who must select wisely the one-man tools that will give him the highest efficiency, and each person must select for themselves the tools for their particular specialization; but there are certain tools which every gardener must have, and we here call attention to certain makes which we recommend as essential to efficiency:

Spading Fork, Long Handle.	Pointed Shovel, Long Handle.
Best Steel Rake.	Best Steel 7-in. Hoe.
Five-tine Norcross Cultivator.	Best Steel Trowel.
Sprinkling Can.	Garden Hose and Nozzle.

These tools are necessary to the beginner, no matter how small the garden. Other tools and appliances will be required as the garden grows larger and more diversified. Look these pages over; you are sure to find anything you will need, except large farming implements which we do not offer, but will get for you if requested to do so.



Master's Plant Setter

Segment Corn Planter

The lightest, most accurate, strongest, cheapest and most up-to-date Planter on the market. Never cracks a kernel nor skips a hill. It is always in position, never makes a wrong move. Many gardeners are using this for their re-planting, and melon growers are using it to plant watermelons and cantaloupes. (See picture). Price—\$2.50 f. o. b. here. Weight 5 lbs.

Ask for anything you may want pertaining to garden tools; we probably have it, although not listed.

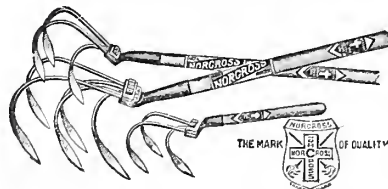
Master Plant Setter

The only hand mechanical plant setter on the market. No stooping when using it, therefore no lame backs. All kinds of plants—Cabbage, Tobacco, Toma-

atoes, Cauliflower, Strawberries, Sweet Potatoes, etc., are set in water and covered at one operation. Weight 10 lbs. Price—Each \$5.50 f. o. b. here. Ask for circular.

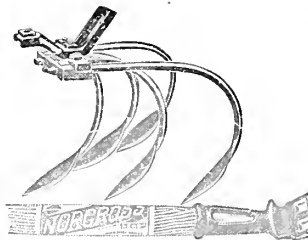
"Norcross" Cultivators—Hoes & Weeders

The Modern Tools—For Garden and Flowers



Like the Human Hand, these tools cultivate closer to plants without injuring them, than any other implement known; leaving the soil level, loose and untrampled.

Cost but a trifle more than the common Hoe—accomplish much more and better work with decidedly less labor. The sharp tapering shovels enter the soil freely, literally tearing up every inch of it, from 1 to 6 inches deep as required.



Detachable Steel Prongs—Malleable Head—Extra High Grade Handles and beautifully finished throughout.

Three sizes, suited to both men and women.

A DISTINCTIVE FEATURE

The "Norcross" 5-prong is the only Cultivator having a Detachable Ferrule (Pat'd) whereby same with handle may be detached and head attached to standard wheel plows if desired, using Norcross Universal Connection supplied extra at 20c.

PRICES EACH—5-prong (wt. 3 lbs.), \$1.25; 3-prong (wt. 2 lbs.), \$1.00; Miget (wt. 12 oz.), 50c. Postage extra. See postal rates on inside front cover page.

We are closing out our stock of Horse Cultivators. Call at our retail store, 620 So. Spring St., where you can purchase them at a real bargain.

INFORMATION

Our Information Department Is Free To You

Correspondence School—Our Information Department is like a Correspondence School, except that it is all free to you and you are welcome. Read pages 4 and 5. Notice the Call Counter, and make use of it.

SPRAYERS FOR EVERY PURPOSE

Continuous Sprayer

This atomizer is what the name implies, by means of a small air chamber attached there is sufficient pressure to keep the spray continuous while the operator is making the back stroke of the arm, during which time other atomizers are at rest. **Tin, prepaid \$1.25. Brass, prepaid, \$1.75.**



Continuous Sprayer

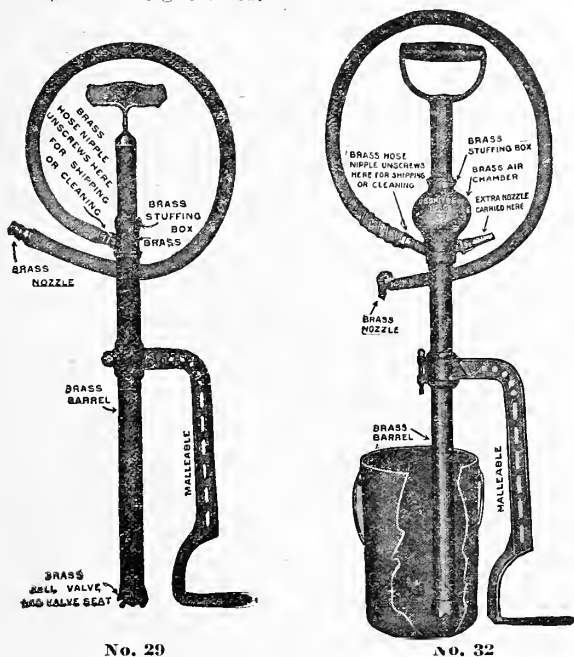
Two nozzles go with this sprayer, one for upward spray and one for straight ahead.

Diamond Bucket Spray Pump No. 32

Diamond Spray Pump—A pump that will spray whitewash or any other mixture. Made of solid brass, no leather valves to wear out, can be eaten up by the whitewash. Throws a continuous spray and is so simple that a child can take it apart. The Pump shown on this page is almost entirely of the best grade of brass, hence it cannot be affected by the action of the whitewash or of any ordinary spraying solution. It is fitted with a Bordeaux Nozzle. Altogether it is the most durable and serviceable bucket pump made. **Price—\$5.75 each. Weight 10 lbs.**

Diamond Bucket Spray Pump No. 29

This pump is provided with large double air chamber, enabling the operator to keep a constant pressure on the nozzle of from 50 to 100 pounds with very little exertion. Rapid pumping is not necessary. Used largely for spraying trees, shrubbery, vegetables, as well as for whitewashing, spraying disinfectants, washing wagons, windows, etc. **Price—\$3.75.** Weight 7 lbs.



No. 29

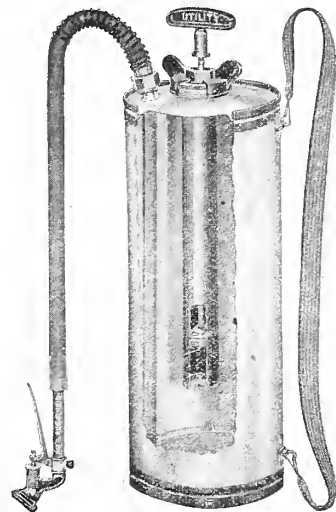
No. 32

When wanted by Mail, add postage. See inside front cover page.

We have enumerated only a few of the specialties we carry. We have always on hand a full line of garden tools of every description, and for every conceivable purpose. Ask for anything you may want in this line. We have it.

A & M Superior Utility Sprayer

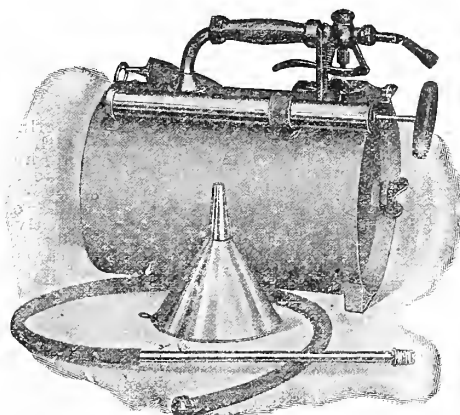
This sprayer is made of heavy galvanized iron or brass, all seams sweated and riveted, tested at 95 lbs.; tank equipped with standard hose connections, capacity 3½ gallons. The pump cylinder is made of heavy brass tubing, with bronze ball check valve contained within a thin brass cage, which does not deteriorate like rubber. The nozzle is made of brass and can be adjusted to be operated at any desired distance by three-eighths inch connecting rod. This sprayer is especially adapted for spraying trees, poultry houses, out-buildings, barns, and vegetables of all kinds. By reason of the ball bearing check valve, any insecticide or acid may be used safely in this pump without danger to the valve. This pump is the dairyman's friend. Packed one in a box, shipping weight 10 lbs. Price: galvanized \$6.75, brass \$9.50.



Utility Sprayer

Lowell Compressed Air Sprayer

Has stood the test of fifteen years. The tank is made of heavy steel or brass, holding three gallons. The discharge pipe extends down through the tank to the bottom of the solution. The pump is located on the outside of the tank and the valve does not come in contact with the insecticides or acid used in spraying. This is the all-purpose sprayer. Price, galvanized \$7.25, brass \$16.00. Weight 20 lbs.



Lowell Compressed Air Sprayer

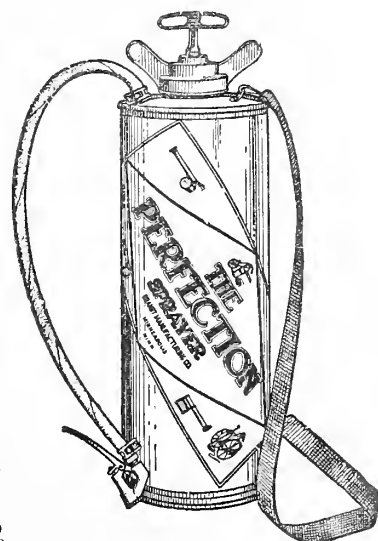
Perfection Compressed Air Sprayer

The tanks are made of heavier metal than has ever been used in sprayers of this kind, making the tank practically unbreakable. The pump is 1½-inch seamless brass tubing with a brass valve, and is sealed into the top of the tank with heavy threads following the construction used in the best makes of fire extinguishers.

This Sprayer will handle Whitewash, Water Paints, Bordeaux Mixtures, etc., perfectly.

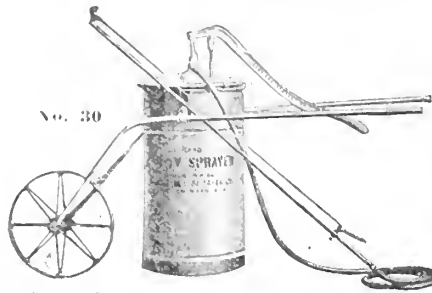
For whitewash and all heavy mixtures it is necessary to use a "W. W." Cap in nozzle, which is furnished with prayers. These sprayers are made in galvanized steel or brass as ordered. Weight, 9 pounds empty. All sprayers tested to 60 pounds before leaving factory. Weight, packed, 14 lbs.

Galvanized Steel...\$7.00
All Brass10.00
 We keep on hand all minor parts. Perfection Nozzle, \$1.50;
 Disks, 10c; Disk Valve, 25c; Ball, 25c; Top Gasket, 10c; Metal
 Disk in Pump, 5c.



"Ideal" Spraying Outfit

IDEAL No. 31



This outfit has been designed to fill the requirements of the small gardener and fruit grower. It is light, compact and easy to operate. The tank holds fifteen gallons, is mounted so that the liquid will not slop or spill, and in a way that makes it easy to handle. The pump spreads across the top of the tank and is held firmly in place by a thumb nut. It has the largest air chamber of any spray pump of corresponding size. The valves are bronze balls $\frac{5}{8}$ inch in diameter, which allows free passage for the liquids and prevents clogging. Both valves are removable. A mechanical agitator keeps the liquid well stirred. The air tank has a diameter of ten inches, is twenty-four inches in length, heavy steel, all joints welded. Tested to 275 lbs. pressure; pressure gauge reading to 200 lbs. By pumping up 150 lbs. pressure, the machine will operate for five minutes without further pumping.

No. 30 Ideal.—The specifications for this machine are the same as No. 31, with the exception of the air tank. The large air chamber in the pump enables the operator to keep a uniform pressure on the nozzle. 150 lbs. pressure can easily be maintained. With each of these pumps are 10 ft. of $\frac{3}{4}$ inch hose, one Ideal nozzle, 8 ft. pipe extension, fog nozzle and leakless shut-off.

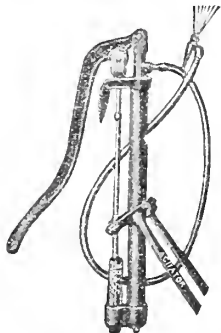
Price—No. 31—\$37.00. Wt. 80 lbs.

Price—No. 30—\$26.50. Wt. 75 lbs.

The No. 25 "Yankee" Barrel Spray Pump

Made With Brass Nozzles, Brass Cylinder, Brass Ball Valves and Valve Seats

Quickly Attached to Any Barrel



The No. 25 "Yankee" double acting barrel spray pump for use with a barrel spraying outfit. All parts are submerged in the liquid, and therefore no priming is necessary.

The suction barrel is made of heavy brass, and all valves and valve seats are made of the best brass, ground together so that all parts are absolutely air-tight. These parts will not corrode or rust out, nor is any part of the pump affected by the strong mixtures.

The duplex agitator keeps the liquid stirred up and prevents the ingredients from settling to the bottom. The pump is regularly fitted with 5 feet of $\frac{1}{2}$ -inch 3-ply rubber hose of A-1 quality, and Vermorel brass Nozzle, from which any size spray or stream can be thrown. It is impossible to clog this nozzle, and it cannot get out of order.

Spray Pump Complete

Only very slow and easy pumping is necessary. The "Yankee" is used extensively for all spraying purposes, especially for orchards, vineyards, shrubbery, and for whitewashing hen houses, stables, fences, etc.

Price, complete, without barrel, \$14.00. Wt. 42 lbs.

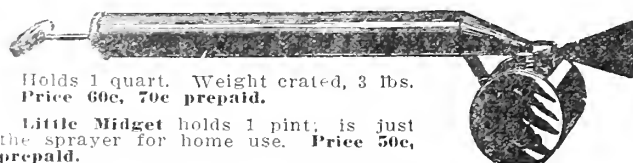


Knapsack Sprayer

KNAPSACK SPRAYER

Just the thing for spraying celery, hen houses, small orchards. It leaves the hands free to operate. Made of brass or galvanized iron. Write for further description and price.

The Faultless Sprayer



Holds 1 quart. Weight crated, 3 lbs. Price 60c, 70c prepaid.

Little Midget holds 1 pint; is just the sprayer for home use. Price 50c, prepaid.

The No. 40 "Best" Barrel Spray Pump

Made With Brass Nozzles, Brass Cylinder, Brass Ball Valves and Valve Seats

Dimensions — Height over all, 43 ins.; boiler tubing, air chamber, diameter, 3 ins.; length, 32 ins.; cylinder diameter, $2\frac{1}{2}$ ins.

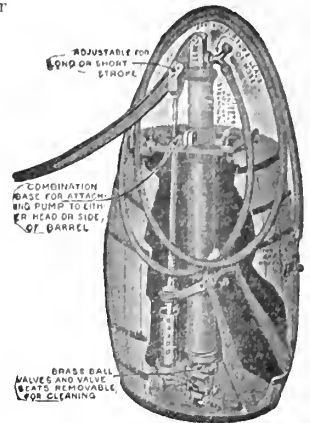
The Plunger Packing is a specially prepared, treated canvas, that is proof against the ruinous effects of strong mixtures, which would destroy a leather packing. The brass cylinder and all valves and valve seats are made of the best brass, ground together so that all parts are air-tight. These parts will not corrode nor rust.

By removing two bolts, the valves are accessible, making it easy to quickly clean pump when necessary.

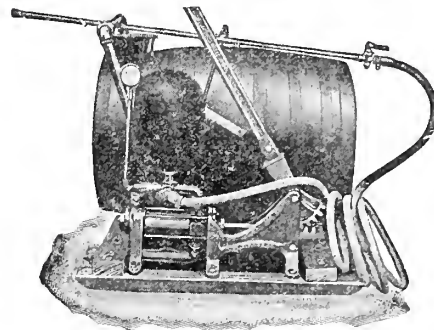
All parts are submerged in the liquid, and therefore no priming is necessary.

Pump has duplex agitator which keeps the liquids thoroughly mixed. The air chamber is exceptionally large, making it easy to produce sufficient pressure for a continuous spray of great force with slow pumping. The stroke of the lever handle may be changed by simply removing and replacing a single bolt, thus varying the pump's capacity.

Price, complete, without barrel, \$23.00. Wt. 60 lbs.



No. 40—"Best" Spray Pump, Complete With Agitator, 15 ft. Hose and Vermorel Nozzle



Style "A." Price \$45.00

1 Brass Shut-off Cock;

1 "Fog" Nozzle.

Style A, consists of Pump, Skids and full equipment as shown but no barrel. Shipping weight, about 135 lbs.

"No. 7 King" Style A — 2 by 7 inch heavy brass tubing. The pressure gauge is graduated to 300 lbs. The air chamber is extra large and made of pressed steel and is tested to 300 lbs. The handle is extra long and is made of malleable iron.

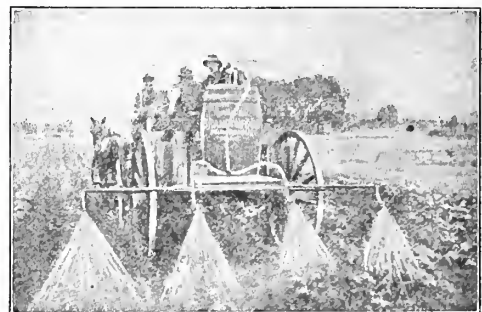
Equipped with: 15 ft. $\frac{1}{2}$ -in. 6-ply Pressure hose; 8 ft. Pipe Extension in two pieces;

1 300-lb. Pressure Gauge;

Wagon Spray Boom

Price \$11.00. Weight 28 lbs.

This boom can be used with any good barrel pump, but gives the best satisfaction in connection with our No. 25 or No. 40. It is light, strong and adjustable to every position. Will throw spray at any angle and can be folded so that you can drive thru narrow gates and can be set to spray between rows of grape vines, etc., two nozzles spraying to the right and two to the left. One barrel of liquid will cover three acres. A ten year old boy can operate it. The cheapest and best method of spraying a field of potatoes, celery, etc.



Wagon Spray Boom

INSECTICIDES See Pages 9 and 64.

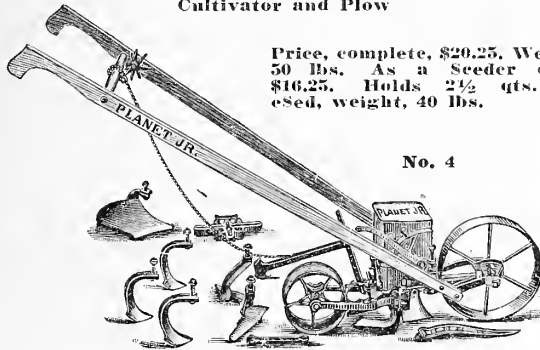
The ever increasing inroads of insects and disease has rendered it necessary to get adequate sprayers to meet this necessity. Call and see our assortment; it is complete.

PLANET JR. GARDEN TOOLS

Hand Cultivators and Seeders have become a garden necessity. One man with a hand cultivator can do the work of six men with the hoe, and do it easier. All are good, but some are more adaptable for all purposes.

Space will not permit a detailed description of all the garden tools we offer, but a short reference to each will suffice to let you know what we have, and if interested, please write for special circular or detailed description of what you want.

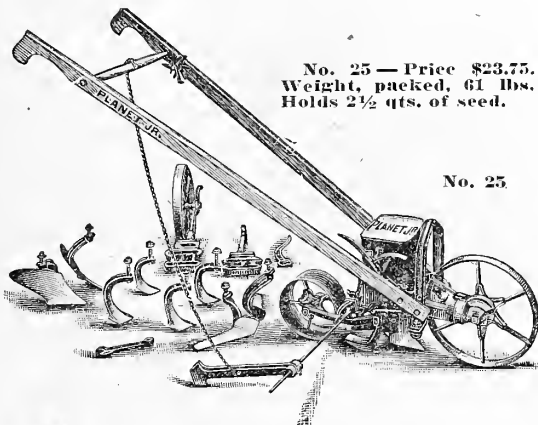
No. 4, Planet Jr. Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow



Price, complete, \$20.25. Weight 50 lbs. As a Seeder only, \$16.25. Holds 2½ qts. of seed, weight, 40 lbs.

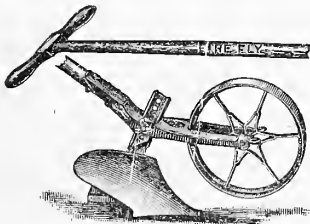
No. 4

This tool combines in a single convenient implement, a capital hill-dropping seeder, a continuous row seeder, an admirable single wheel hoe, an excellent furrower, a splendid wheel cultivator and a rapid and efficient wheel garden plow. As a Seeder the No. 4 is accurate, simple, durable, reliable and easy running, doing first-class work in every particular. Price, complete, \$20.25.



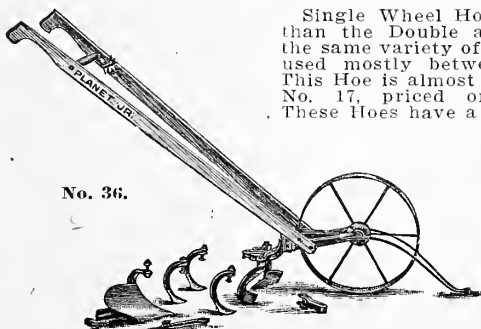
No. 25 — Price \$23.75. Weight, packed, 61 lbs. Holds 2½ qts. of seed.

No. 25



Planet Jr. Fire Fly.—1 plow only. Price, \$4.75. Weight, packed, 30 lbs.

No. 36 Planet Jr. Single Wheel Hoe, Cultivator and Plow.

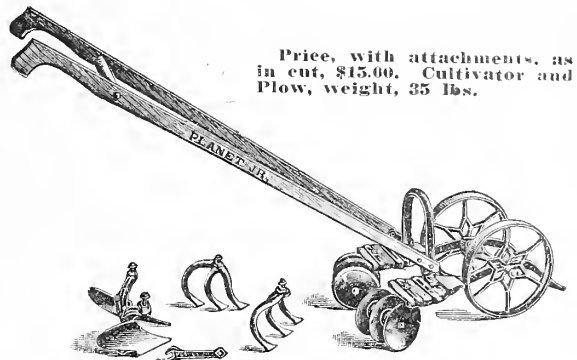


No. 36.

Single Wheel Hoes are lighter than the Double and do almost the same variety of work, but are used mostly between the rows. This Hoe is almost identical with No. 17, priced on next page. These Hoes have a variety of attachments

which adapts them to any variety of garden culture.

No. 36, Price \$12.00. Wt 30 lbs.



No. 14 Planet Jr. Double Wheel Disc Hoe

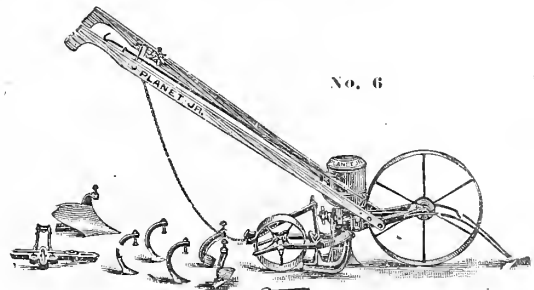
This new tool will give excellent satisfaction; is especially pleasing to all who work peat lands. There are three oil tempered discs on each side.

The set of prong cultivator teeth are constructed on entirely new lines, and will be found invaluable in general cultivation.

The plows are the regular Planet Jr. model and are continually valuable for furrowing, covering and plowing.

Price, complete, \$15.00.

No. 6 Planet Jr. Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow. Price, complete, \$26.75. Weight, packed, 63 lbs. As a Seeder only, \$23.25.



No. 6

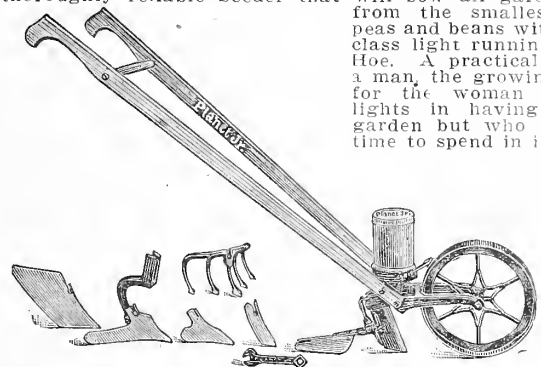
This is our latest Combined Hill and Drill Seeder and Wheel Hoe, and after three years' gratifying use in the field, every detail has been perfected.

What It Will Do.—It drops all garden seeds in hills and sows in drills, with the greatest regularity, in a narrow line, to any exact depth required, covers, rolls down and marks the next row, all at one passage. As a wheel hoe, it hoes, cultivates and plows all garden crops, completing a row at every passage, up to 16 inches in width.

Planet Junior No. 31

The No. 31 is a New Planet Jr. Combined Seeder and Wheel Hoe designed for small gardeners. It combines a thoroughly reliable Seeder that will sow all garden seeds from the smallest up to

peas and beans with a first-class light running Wheel-Hoe. A practical tool for a man, the growing boy or for the woman who delights in having a good garden but who has little time to spend in it.



Price, complete, (No. 31) \$13.75
As a Seeder only (No. 32) 11.25
As a Wheel Hoe only (No. 33) 7.50

No. 20

Planet J. Fertilizer, Pea and Bean Seeder

Price Complete, \$35.50. Packed weight, complete, 83 lbs.

IRON AGE IMPLEMENTS

The Iron Age Cultivators and Drills have been on the market for twenty years. They are made of the best material, well put together, and rightly designed for everyday use. The wheels are larger than other hand tools, making them easier to run. The Seed Drills may be changed to a Single or Double Wheeled Hoe very quickly.

No. 6.—Combined in this tool are three distinct and thoroughly practical implements, a Hill and Drill Seeder, a Double Wheel Hoe and a Single Wheel Hoe. As a Hill and Drill Seeder, packed weight, 57 pounds. Price \$20.00.



No. 6

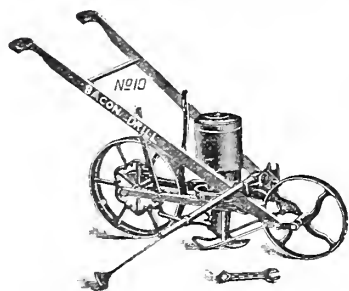
No. 19.—To meet a demand coming from some sections for a Weed Plow and Cultivator equipped with a higher wheel than anything we have previously offered, we designed our No. 19 "Iron Age" Wheel Plow and Cultivator. In doing so it will be noticed we have kept in mind those excellent features which have made our "Iron Age" Garden Implements so popular, that is, lightness combined with strength.



No. 19

No. 19. "Iron Age" Wheel Plow and Cultivator. Packed Weight, 22 pounds. Price \$6.00.

The Bacon Hand Drill



Bacon Hand Drill

We have been handling the Bacon Drills since 1899, and the many customers who are using them are unanimous in praise of their durability and accuracy. All who have used this drill claim it is the most durable of all, absolutely reliable to sow evenly from one end of the row to the other. Has angle steel frame with Hill Dropper, Agitator and Front Wheel Extensions of Malleable iron, giving strength with lightness.

The Hill Dropper will deposit seeds in hills, 9, 12, 18 or 36 inches apart.

The feed, while simple, handles a very large variety of seed, getting an even distribution that is unequalled, and very noticeable in sowing Salsify, Parsnip, Prickly Spinach, Peas, Beet, etc., getting an even row with light seeding.

The feed will also handle Phosphates, which can be sown before or after seeding.

The Drills have a Shoe Opener, which deposits seed in a narrow line, allowing close cultivation, saving hand labor. No. 10—Hill and Drill Seeders, \$10.00.

EXTRA PARTS FOR PLANET JR. TOOLS

We carry a full line of extras. When in need of any, write us, describing the part wanted as accurately as you can, giving the number of the casting, or send a picture or pencil drawing.

GARDEN TOOLS FOR EVERY PURPOSE

Our line of tools is very complete. It is hardly possible you could wish for anything we do not have. We have added some low priced drills and cultivators, not because they are inferior, but they are built for the small gardener who has little use for a drill, but cannot get along without one.

THE COLUMBIA MACHINES

Write for Circular

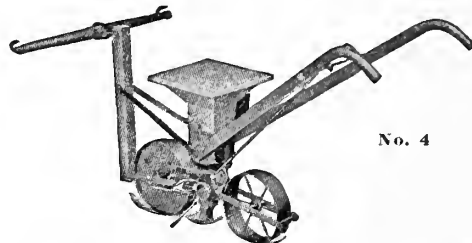
The Greatest Seeding Machines in the World

They sow any kind of seed, large or small. They are all A POSITIVE FORCED FEED. Every seed is carried to the ground and covered; not a seed can escape, and not a seed can pass through the machine nor escape to the ground until the machine is in gear and moves forward and is ready to do its work; nor can a seed be shaken out or get to the ground when the machine is out of gear. A very important advantage possessed by no other planter. They are the simplest of all planting machines; the most certain and most complete planters in the world. WONDERFUL LITTLE MACHINES; plant all kinds of seeds, from the smallest to the largest.

The Columbia Hand Planter No. 10

You can plant from one inch apart to ninety-six inches apart by the simple manipulation of the disk wheel and the cylinders. With this drill you can sow any seed in any quantity any distance apart up to eight feet. It will sow your pepper, tomato, and any other crops in the field that now must be done by transplanting. It is a universal planter because there is nothing in the seed line from the size of lima beans to turnip seed that it will not plant. With special apparatus it will plant shelled peanuts without crushing the seed. For hand planter, Price \$20.00. Weight 85 pounds.

Columbia Hand Planter No. 11—Same as No. 10 with the addition of the Fertilizer Attachment. Price \$25.00.



No. 4

COLUMBIA PLANTER WITH HORSE ATTACHMENT

Just the seeder for large gardeners. It does the work as perfectly and as economically as the hand planter. It is heavier than the hand planter, and fitted with a single-tree attachment and extra large adjustable hopper. Weight packed for shipment 100 pounds. Price, complete, \$30.00 f. o. b. here.

We aim to have, on hand cylinders for every kind of seed. When ordering special cylinders, consult your circular, that you may get the one you need.

PLANET JR. TOOLS

Space does not permit us to show all the tools we handle. Following is a list of both hand and horse tools which we carry:

Hand Tools

	Price		Price
No. 16	\$11.25	No. 17½	\$ 8.50
No. 17	9.75	No. 12	13.25

Horse Tools

	Price		Price
No. 100	\$12.25	No. 101D	\$12.25
No. 100D	10.25	No. 107	16.75
No. 101	14.25	No. 107D	14.75

We have a few other 5 and 7 tooth cultivators which we can offer very reasonable.

Hatch Your Chicks by Electricity

A new method of heating. Install in your incubator and brooder the Climax Electric Heater and the Reliable Electric control. No danger of fire. Price of outfit complete \$12.50. If interested, write for circular.

NOTICE! NOTICE! NOTICE!

We aim to list in this catalog our leaders in every line, too numerous to mention. Therefore we request that should you desire anything pertaining to agriculture write us about it. If we do not have it, we will be accommodating and get it for you. Consider us your friend and make use of us.

We have aimed to make of this catalog a reliable guide for farmers and gardeners. Therefore every picture is from an actual photograph and every description is without exaggeration.

Poultry Department

Mr. Church has a record of twenty-five years continuous service as a specialist in **Poultry Food, Supplies and Remedies**. Twelve years of this time he has been in charge of our Poultry Supply Department, and many new remedies and ideas beneficial to poultrymen have been advanced by him.

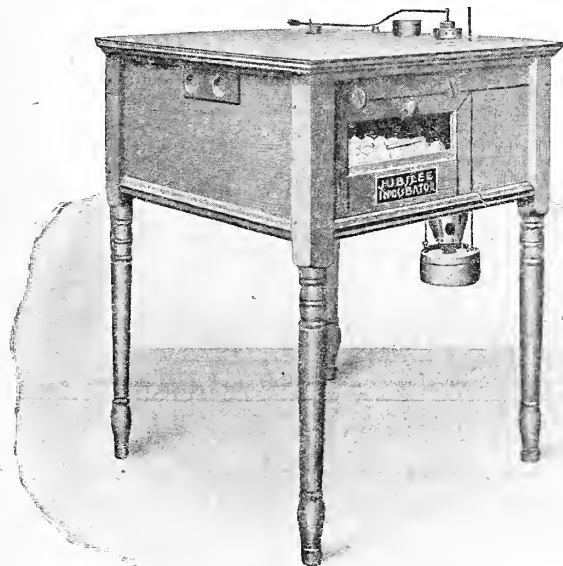
Mr. Church will cheerfully give any advice that will benefit the poultryman and will assist him in making his poultry plant a success. All inquiries may be directed to the Poultry Dept. and they will receive immediate attention.

He is always willing to give advice; does it cheerfully, and you will find it a pleasure to have him wait on you.



S. H. Church

JUBILEE INCUBATORS and BROODERS



JUBILEE INCUBATOR

The Jubilee Regulator is the most simple, the most sensitive and the most durable of any regulator in existence. It will not stick, as there are no joints to catch; plays perfectly free, and when the heat of the egg chamber reaches the degree to which it is regulated the expansion of the regulator causes a balance valve to raise off the escape flue. This allows the heat direct escapement, the circulation is retarded, and the radiation of the heat in the egg chamber is decreased—all this allows just sufficient heat radiated from the pipes to keep the temperature of the egg chamber to the desired degree.

The Jubilee system of applying moisture is the most perfect ever devised. The boiler chamber is provided with a special moisture pan, which derives its heat from the Jubilee boiler which the boiler chamber encloses. By means of a feed cap and a draw-off, or in five minutes' time increase the moisture to saturation, and more important still, all this is accomplished without opening the door of the egg chamber or exposing the eggs.

Capacity	Weight	Dimensions	Price
108-egg Jubilee	110 lbs.	2 ft. 8 in. x 3 ft.	\$ 26.00
216-egg Jubilee	150 lbs.	3 ft. 8 in. x 3 ft. 3 in.	36.00
324-egg Jubilee	200 lbs.	2 ft. 8 in. x 5 ft. 3 in.	45.00
504-egg Jubilee	260 lbs.	3 ft. 2 in. x 7 ft. 2 in.	57.00

On account of advancing prices on all Galvanized steel goods and materials, prices are subject to change without notice.

ECONOMY HOVER

CONSTRUCTION
In construction the Economy Brooder Hover is very simple, as shown by the cuts. It is made of steel throughout, and all parts are seamed or welded together, strong and durable.

It is compact, light and all in one piece, so that it can be conveniently lifted by the two handles and moved from one place to another without disturbing the lamp.

Safety, Convenience and Economy

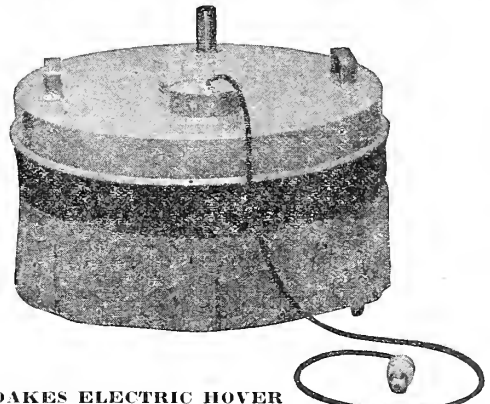
The lamp, slide and lamp box form a very convenient combination; and one which is doubly safe as the lamp has an O. K. Safety Burner, and the lamp box is fireproof.

The Economy Hover can be used anywhere with perfect safety and ONLY A VERY SMALL FLAME is required to keep up the temperature, as the lamp is inside, and no heat is lost. The lamp is held securely in the lamp slide and the slide is an accurate fit in the lamp box, so that no adjustment of the lamp is necessary—simply push the slide in as far as it will go.

The No. 1 Economy Hover has a heating drum 18 inches in diameter. **Price \$8.50.**

No. 2 Hover has a 22-inch drum. **Price \$11.50.**

THE OAKS ELECTRIC HOVER



THE OAKS ELECTRIC HOVER

The Oaks Electric Hover is made on the same general principles and of the same high grade material as the Oaks Electric Incubator and has a very sensitive and accurate regulator equipped with platinum contact points. It is 22 inches in diameter and has a heavy double curtain attached with large eyelets and hooks.

The Oaks Electric Hover will give you the best results with the least possible care and trouble.

The Hover is also made in the 32 voltage and 110 voltage.

PRICE LIST

Hover without cage \$15.00

Shipping weight, about 30 lbs.

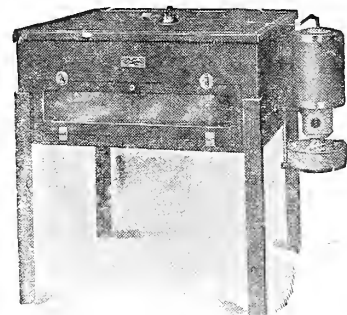
Prices do not include postage, express or freight.

SPECIAL OFFER WHILE THEY LAST

\$10

1
2
5

Eggs



\$10

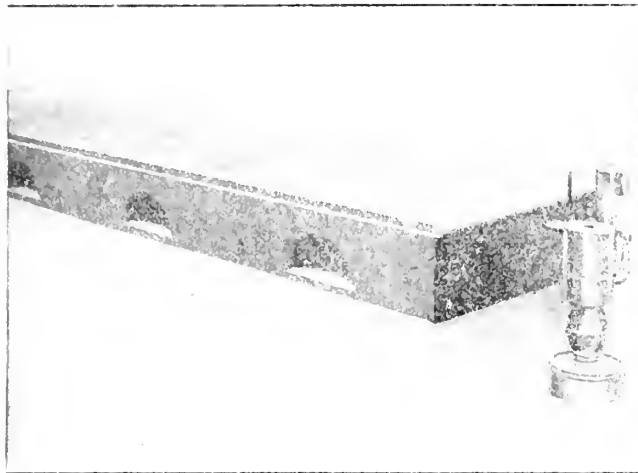
1
2
5

Eggs

This company, that has always given the breeder more than value asked; made on an advanced principle, and backed by a reputation as a hatcher, poultry raisers absolutely take no chances when they select this low-priced little machine. It excels all other similar hot air machines in Appearance, Durability, Quality of Heating Equipment, Method of Construction.

PRICE - - \$10.00

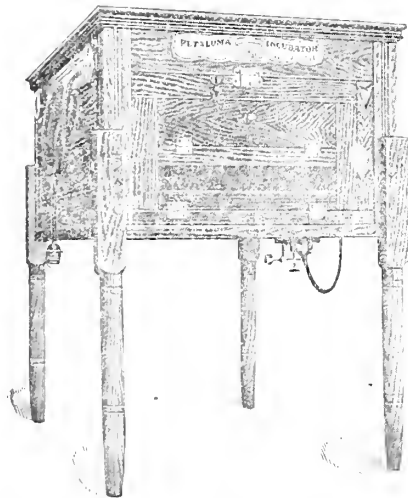
INCUBATORS AND BROODERS—(Continued)



JUBILEE INDOOR BROODERS

Capacity	Weight	Dimensions	Price
4-section—200 chicks	170 lbs.	2 ft. 6 in. x 10 ft.	\$22.00
3-section—150 chicks	135 lbs.	2 ft. 6 in. x 7 ft.	29.49
2-section—100 chicks	100 lbs.	2 ft. 6 in. x 5 ft.	16.00

PETALUMA ELECTRIC INCUBATOR



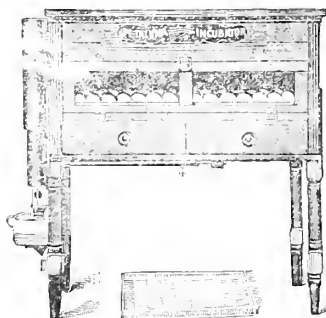
In keeping with our advanced ideas in the field of artificial incubation we were the first to introduce a real practical electric incubator. One that does not require an electrician to operate it. One that is simple enough for any person to understand. One that is unique in construction, safe, reliable, and using but a small amount of current. One that controls the heat perfectly and will not get out of order. One of very few parts and very simple mechanism, and will hatch any thing that can be hatched.

80-E—126 eggs.	Weight 70 lbs.	Price.....	\$23.00
81-E—252 eggs.	Weight 100 lbs.	Price.....	32.00
83-E—504 eggs.	Weight 175 lbs.	Price.....	53.00

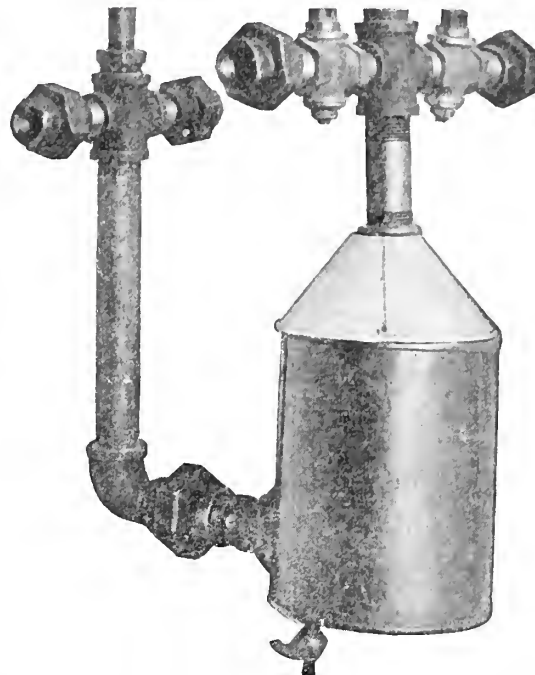
PETALUMA INCUBATORS AND BROODERS

Petaluma incubators and brooders are made of the celebrated California Redwood, the best in the world for the purpose. They are made in the best equipped factory, and the fact that they have been giving satisfaction in hatching all kinds of eggs, in all climates and under all conditions, and doing this for many years before any other incubator of the present time was known, and have continued to do so right up to the present moment, certainly stamps them as "Standard of the World."

Model 80—126-egg.	Weight 70 lbs.	.....	\$23.09
Model 81—216-egg.	Weight 100 lbs.	.....	32.00
Model 83—504-egg.	Weight 210 lbs.	.....	53.00



THE LOS ANGELES BROODER HEATER



Many manufacturers have attempted to meet the demand for a successful brooder and brooder house heating system. Many of these attempts have been unsuccessful.

The Heater is made of heavy rolled copper, including 16 half-inch brass tubes, giving very large heating surface, and is almost indestructible under ordinary conditions. The heat comes from a gasoline burner, which checks the flow of gasoline a tonce in case of fire.

The regular size is.....\$20.00
Oblong Boiler.....26.00

Including two burners.

INCUBATOR AND BROODER SUPPLIES

Lamp Founts for Incubators, No. 1, 50c ea.
Lamp Founts for Incubators, No. 2, 60c ea.
Lamp Founts for Incubators, No. 3, 75c ea.
Lamp Chimneys for all sizes, 25c each.
Burners, for Incubators, Sun-hinged, No. 2, 35c each.
Burners, for Incubators, Sun-hinged, No. 3, 75c ea.
Lamp Wicks, all sizes, 15c per dozen.
Egg Testers, tin, 30c each.

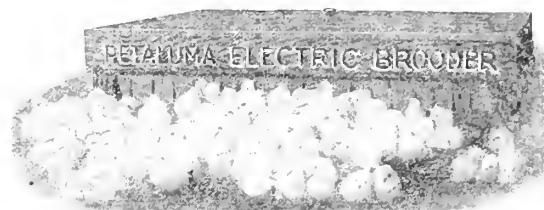
JUBILEE INCUBATOR AND BROODER SUPPLY LIST

Incubator or Brooder Lamp, by express, complete with No. 2 Sun-Hinge Burner.....\$1.75
Incubator or Brooder Lamp, by express, complete, with No. 3 Sun-Hinge Burner.....2.00
Tested Jubilee Thermometer, postpaid......85
Jubilee Egg Tester, postpaid......30
No. 3 Sun-Hinge Burner, postpaid......75
No. 2 Sun-Hinge Burner, postpaid......50

Brooder Heaters

For 2-section In-Door Brooder.....\$10.00
For 3-section In-Door Brooder.....11.00
For 4-section In-Door Brooder.....12.00

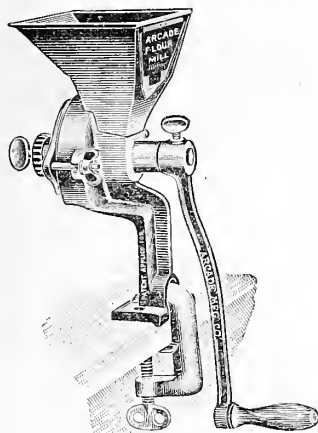
PETALUMA ELECTRIC BROODERS



100E—100 Chicks,	weight 40 lbs.	.....	\$12.00
250E—250 Chicks,	weight 80 lbs.	.....	15.00
500E—500 Chicks,	weight 122 lbs.	.....	25.00

Send for catalog on Electric Incubators and Brooders.

GRINDING MILLS



Arcade Flour Mill

ENTERPRISE BONE AND GRAIN MILL

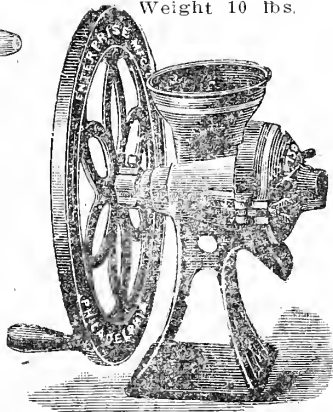
One of the essential tools for poultry men. Can be used for cracking grain, bone, shell or grit.

The Burrs are made from cold chilled steel of the best quality. This mill has for many years been the standard machine of the market, on account of its fine workmanship and durability. If you want a mill that will last and do your work get the Enterprise. (Weight with crate, 75 lbs. Price, \$10.00.

The Arcade is easy to adjust for grinding all sizes from very coarse to very fine. If you prefer, the ground grain can be sifted to remove the hulls. Also it saves money for you. When you figure it out, home ground flour or meal costs about one-fourth what the mill product costs. The Arcade pays for itself in a few weeks.

Food experts agree that flour made from whole grains is more wholesome and digestible.

Now, there are other so-called home flour mills on the market, but they do not grind the same kind of old-fashioned flour that the Arcade does. Price \$4.50. Weight 10 lbs.



Enterprise

MODEL HAND GRINDER

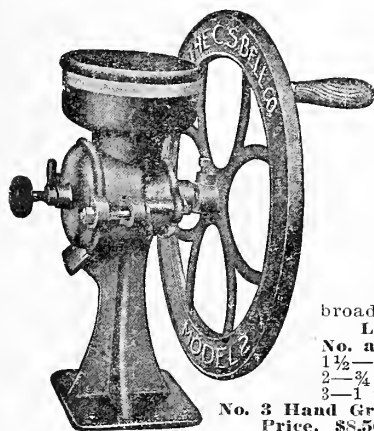
The original family grist mill,—not a cheap imitation. Model Mills have more than one outright copy but are far superior. Model Mills have harder burrs which run accurately, they are painted to a high finish, not dipped. The parts are smooth castings, carefully ground and fitted.

Model Mills last longer, do more and better grinding and have a broader range of usefulness.

List of Sizes We Carry

No. and Capacity	Wt. Price
1½—½ to 1 bu. per hr.	20 \$4.00
2—¾ to 2½ bu. per hr.	35 6.50
3—1 to 3 bu. per hr.	63 8.50

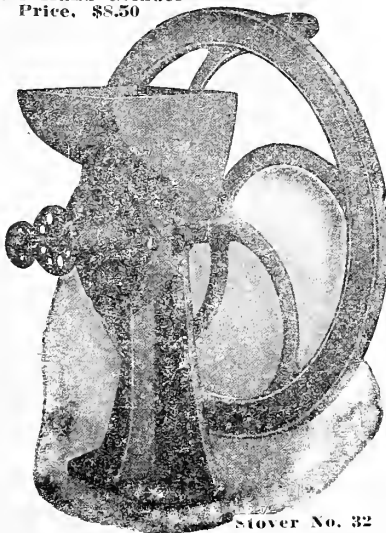
No. 3 Hand Grinder
Price, \$8.50



Model Grinder

Stover No. 32.—In this mill are embodied all the good features of other hand-grinding mills to which have been added universal burrs or grinding plates that are adjustable for grinding coarse or fine. This machine grinds oats, peas, dry bone, shells, etc., for feeding to poultry. It is a well designed machine, is strong and well made throughout, and of excellent finish; has a 16-inch fly wheel, is light running.

Shipping weight, 40 lbs. Capacity one or two bushels per hour.
Price \$5.50. Power Grinding Mill, Price \$10.00.



Stover No. 32

BONE CUTTERS

MANN'S NO. 7

The New No. 7 is mounted on a strong iron stand and has patent automatic governing spring feed. Large, open-hinged cylinder, giving instant access to all working parts, has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut.)

Price List of Mann's Bone Cutters

No. 5B (with balance wheel) Price \$12.00, wt. 55.

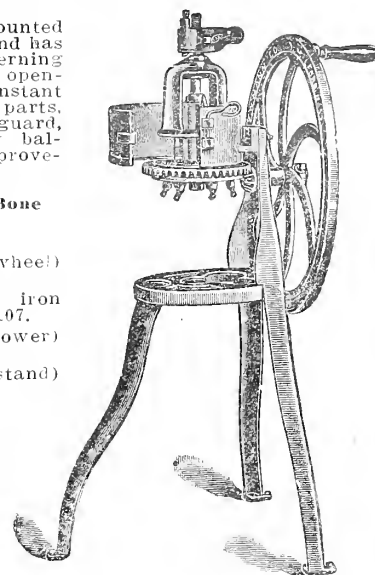
No. 7 (B. W. and iron stand) Price \$23.50, wt. 107.

No. 7½ (hand or power) Price \$33.00, wt. 150.

No. 9 (B. W. and iron stand) Price \$25.00, wt. 163.

No. 11 (power machine) Price \$48.50, wt. 215.

No. 12 (Power machine) Price \$63.00, wt. 260.

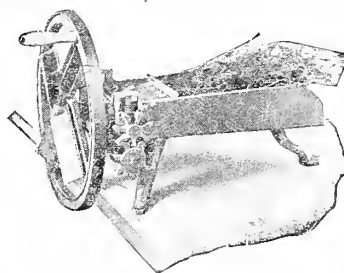


Model No. 7—Price \$23.50

CLOVER CUTTERS

MANN'S CLOVER CUTTER

Made entirely of iron and steel. It cuts any kind of hay or clover, either dry or green. Each revolution of the balance-wheel produces 12 cuts. Price, With Stand\$21.70 Without Stand\$18.70



The Gem Clover Cutter

GEM CLOVER CUTTER

This machine is built of steel and iron throughout, and absolutely the best cutter for small poultrymen, cutting in lengths of ¼ inch.

With stand, \$18.00; wt. 78 lbs.

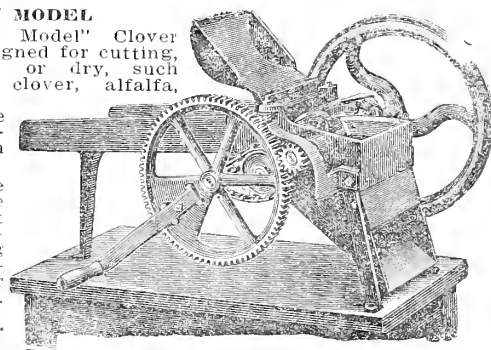
Without Stand, \$16.50; wt. 60 lbs.

NEW MODEL

The "New Model" Clover Cutter is designed for cutting, either green or dry, such growths as clover, alfalfa, vegetable tops, etc., into eighth-inch lengths.

These growths are the cheapest and most productive egg-forming poultry foods for cold weather.

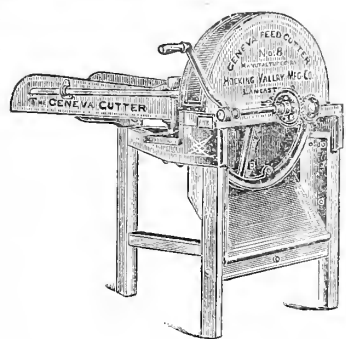
Price \$17.50.



GENEVA FEED CUTTER

NO. 6

This size has two nine inch knives and is intended for hand use only, but can be fitted for power also. It has ample size and capacity to accommodate any ranch from 1000 to 10,000 hens. It will cut ½-inch to ¼-inch. The change is very simple and easily made. It is extremely light running and will cut any kind of feed. In material and beauty of finish it is all the most critical could ask. Price—\$35.00, f. o. b. Los Angeles. Wt. 200 lbs. No. 8 Price, \$45.00. Wt. 240 lbs.



FEEDING PANS AND DRINKING FOUNTS

Made of heavily galvanized iron. Best of workmanship. Very sanitary and easily cleaned. Chickens cannot get into them or upset them.

- 1 pt. size, Wt. 1 lb. 20c each
 1 qt. size, Wt. 1½ lbs. 30c each
 2 qt. size, Wt. 1½ lbs. 40c each
 1 gal. size, Wt. 2 lbs. 50c each
 6 qt. size, Wt. 2½ lbs. 60c each
 F. O. B. Los Angeles



FLAT BACK WALL CHICKEN FOUNT

This fount can be used very conveniently for Pigeons, Chickens, Ducks and other poultry. Well made of heavy galvanized iron. To hang on the wall at any convenient height from the ground.

- 1 qt. size, Weight ½ lb. 25c each
 2 qt. size, Weight 1 lb. 35c each
 1 gal. size, Weight 1½ lbs. 65c each
 2 gal. size, Weight 3 lbs. 85c each
 F. O. B. Los Angeles



SANITARY STONE FOUNTS

- 1 qt. 35c Wt. 4 lbs.
 2 qt. 45c Wt. 6 lbs.
 1 gal. 60c Wt. 7½ lbs.
 2 gal. 80c Wt. 9½ lbs.

If ordering by mail or express add 25c for packing charges for one or more founts.

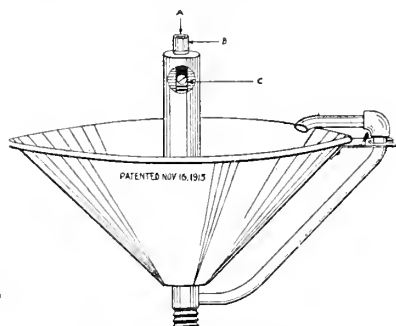
F. O. B. Los Angeles



This Star Fount is made especially for baby chicks. So arranged they can not get into the water. Made of aluminum and will last for years. Best and cheapest fount on the market. Price 20c.



Postpaid 20c.
Star Fount

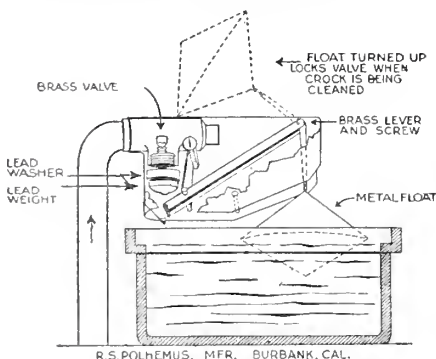


THE AUTOMATIC
WATER FOUNTAIN

THE AUTOMATIC WATER FOUNTAIN

It will refill and stop automatically when the water reaches its proper level. Every fountain guaranteed and replaced if found defective in any way. \$1.60 each. Weight 2½ lbs. F. O. B. Los Angeles.

Prices subject to change without notice.



R.S. POLHEMUS, MFR. BURBANK, CAL.

AUTOMATIC WATER BOY

Water Boy consists of brass valve and stem. No fiber, leather or springs to get out of order. All floats are of metal and will last a long time. Every one guaranteed. Price with metal float, \$1.00. In one dozen lots 90c ea. f.o.b. Los Angeles. Weight ½ lb.

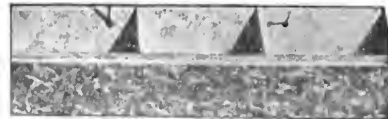
Thoroughbred Rhode Island Red Eggs, \$1.50 per Setting.

WALL PANS

Used for all kinds of grain, cannot waste the feed. Price,

(15 in. 3 compartment, 50c). Wt. 1 lb. F. O. B. here.

(18 in. 4 compartment, 75c). Wt. 1½ lbs. F. O. B. here.



Rabbit Compartment Wall Pans

Flanged Edge Feeders. These are made of stoneware and glazed with a flanged edge for feeding rolled barley. The flanged edge prevents rabbit from throwing out the grain and wasting it. Comes in white, glazed.

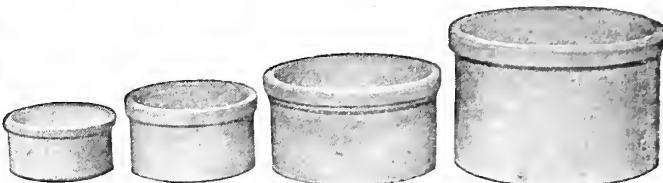


Rabbit Feeders

- No. 1, 15c each, 3 for 35c, 1 dozen, \$1.50. Weight 1 lb. (each)
 No. 2, 20c each, 1 dozen, \$2.00. Weight 2 lbs. (each)
 No. 3, 25c each, 1 dozen, \$2.40. Weight 2½ lbs. (each)
 No. 4, 30c each, 1 dozen, \$3.00. Weight 4 lbs. (each)
 If ordering by mail or express add 25c to order for packing, etc.

RABBIT DRINKING FOUNTAIN

These fountains are made especially strong and durable for rabbits. The wide bottom prevents them turning over. Not broken easily.

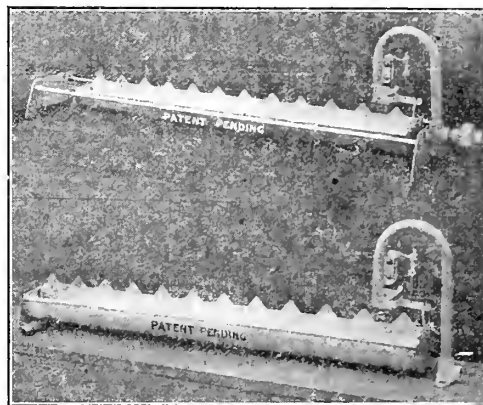


Rabbit Drinking Fountains

- 1 pt. 15c each, 3 for 35c; per dozen, \$1.50. Weight 1 lb. each
 1 qt. 15c each; per dozen \$1.65. Weight 2 lbs. each
 ½ gallon, 20c each; per dozen, \$2.00. Weight 4 lbs. each
 1 gallon, 30c each; per dozen, \$3.00. Weight 4½ lbs. each
 F. O. B. Los Angeles

If ordering by Mail or Express add 25c to order for Packing.

PERFECTION



Automatic Baby Chick Fountain

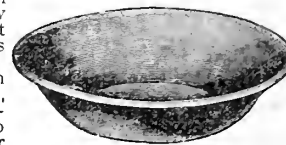
This Fountain is automatic in arrangement, and can be adjusted at will for any water pressure. It is the most modern and complete Fountain ever offered to the poultry people, and is the result of several years experimenting.

The Perfection is made in three sizes (24-in. \$1.75) (30-in. \$1.95) (36-in. \$2.15). Capacity: 500, 750 and 1,000.

PIGEON NESTS

Fills a long-felt want for all squab breeders. Wood gets filthy and vermin laden in a very short time. Iron or earthen-ware is cold and bad for the birds.

Indurated Fibre is lighter than wood, will not warp or break, has a brown finish (not polished), which makes it easy to clean. Impervious to vermin or moisture and is a non-conductor of either heat or cold. A money-saver, and will increase the hatch. Sanitary, handsome, practically indestructible and cheap. Has hole in bottom for screw to hold nest firm and steady. Price 15c each.



EGG BOXES AND SHIPPING BOXES

This Self-Locking Carton holds 2 rows of 6 eggs each and will pack in a standard egg case of 30 dozen. It is always ready to hand out, thus saving handling.

	Wt.	Price
12 Boxes	2 lbs.	\$.25
25 Boxes	3½ lbs.	.40
50 Boxes	7 lbs.	.75
100 Boxes	14 lbs.	2.00
500 Boxes	70 lbs.	8.50
1000 Boxes	140 lbs.	16.50

Any of these articles ordered by Parcel Post add postage.



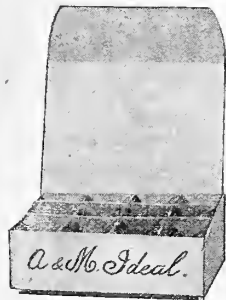
Self-Locking Egg Carton

F. O. B. Los Angeles

A. & M. IDEAL EGG BOX

This carton holds one dozen of 3 eggs wide by 4 eggs long, and are used by grocers who do not pack in cases. Prices are as follows:

	Wt.	Price
12 Boxes	2 lbs.	\$.20
25 Boxes	3½ lbs.	.60
50 Boxes	7 lbs.	.70
100 Boxes	14 lbs.	1.35
500 Boxes	70 lbs.	5.50
1000 Boxes	140 lbs.	10.50

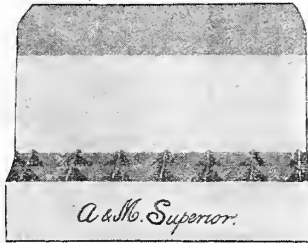


A. & M. SUPERIOR EGG BOX

This carton is 2 eggs wide by 6 eggs long, painted with plain color inside. Strong and durable.

	Wt.	Price
12 Boxes ...	2 lbs.	\$.25
25 Boxes ...	4 lbs.	.40
50 Boxes ...	7 lbs.	.75
100 Boxes ...	14 lbs.	1.50
500 Boxes ...	70 lbs.	6.00
1000 Boxes ...	140 lbs.	13.00

F. O. B. Los Angeles

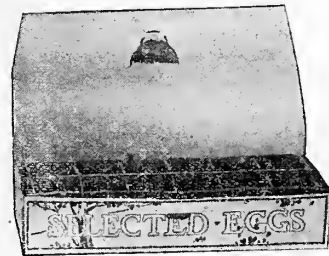


A. & M. SWANEE EGG BOX

This carton holds 2 rows of 6 eggs long. The box is of a blue lining, also the fillers are of blue color. This makes the egg show nice, white and clean. This is the most satisfactory box you can buy.

	Wt.	Price
12 Boxes ...	2 lbs.	\$.25
25 Boxes ...	4 lbs.	.50
50 Boxes ...	14 lbs.	1.00
100 Boxes ...	14 lbs.	1.35
500 Boxes ...	70 lbs.	6.00
1000 Boxes ...	140 lbs.	12.00

F. O. B. Los Angeles



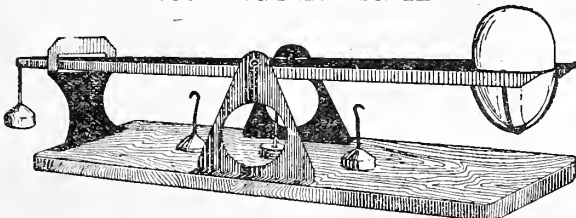
WALLACE EGG BOX

It is the one carrier that will safely deliver the goods irrespective of jars, jolts, or pressure coming from any angle. When the carrier is packed for shipment you can stand on top, bottom, ends, or sides without its buckling or crushing.

	Price per doz. Boxes	Wt. per doz. Boxes
1 Doz. Size, \$.15 each,	\$1.20	10 lbs.
2 Doz. Size, .20 each,	1.80	22 lbs.
3 Doz. Size, .30 each,	2.40	30 lbs.
6 Doz. Size, .55 each,	4.50	60 lbs.
15 Doz. Size, 1.00 each,	9.00	150 lbs.

F. O. B. Los Angeles

GILT EDGE EGG SCALE



Is the only Egg Scale made that will give the correct grading within a range of 17 to 30 ounces to the dozen. Standards of eggs as follows: No. 1 Pullet, 20 to 22 oz.; No. 2 Pullet, 19 to 20 oz. Price \$1.25, postpaid \$1.35.

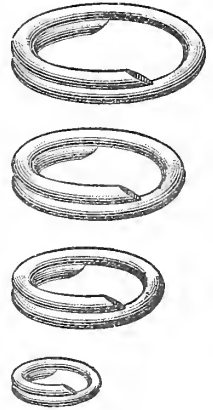
Thoroughbred Rhode Island Red Eggs, \$1.50 per Setting.

LEG BANDS FOR POULTRY

Spiral Leg Bands are made in six colors and all sizes, and are put on and taken off like a key ring. Can't drop off. Colors are black, white, red, yellow, blue, green, purple, light blue, maroon and pink. In ordering please state color wanted, also name of breed, Leghorn, Rocks, Rhode Island Reds or Turkeys. It enables us to fill the order satisfactorily. Prices:

12 Bands for.....	\$.15 postpaid
25 Bands for.....	.25 postpaid
50 Bands for.....	.50 postpaid
100 Bands for.....	.75 postpaid
500 Bands for.....	3.50 postpaid
1000 Bands for.....	7.00 postpaid

Spiral Band for Chick, Bantam and Pigeon size as follows: 12 for 15c; 25 for 25c; 50 for 40c; 100 for 65c; 500 for \$3.00; 1000 for \$5.25. These bands come in the same colors as given above for Poultry Bands.



Spiral Leg Band



CLIMAX LEG BANDS

This Band is easy to put on or remove, no tools required. The rings are made of spring brass, and so bent that the tag acts as a clasp holding them securely in place. Made in three sizes. In ordering always mention the variety of fowl wanted for. Prices (15c for 12) (25c for 25) (50c for 50) (75c for 100) postpaid.

MOE'S SELF-LOCKING LEG BAND

Locked Simply by Pushing it Together. Please order by breed and whether male or female.

12 Bands.....	\$.15 postpaid
25 Bands.....	.25 postpaid
50 Bands.....	.45 postpaid
100 Bands.....	.75 postpaid
500 Bands.....	3.50 postpaid
1000 Bands.....	6.00 postpaid



FLAT ALUMINUM LEG BANDS

These bands fit any variety of fowls. Price—(12 for 15c) (25 for 30c) (50 for 50c) (100 for 75c) postpaid.

Chick Brander.—An aluminum open band for half-grown birds. They are nicely numbered and made so they can be easily adjusted. Price—(15c doz.) (80c per 100) postpaid.

SMITH SEALED BANDS

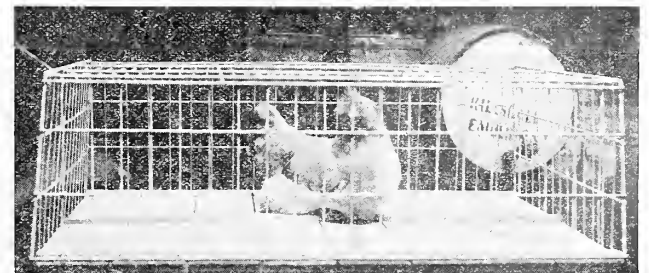
Smith Sealed Bands were put on the market for a purpose. That purpose was to prevent dishonesty in the handling of scored birds and to protect the purchaser of same. Price—(12 for 25c) (25 for 50c) (50 for 85c) (100 for \$1.50) postpaid.

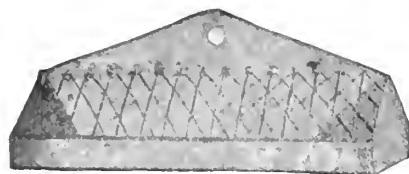
SPATZ PIGEON BANDS

The Easy-On Color Band.—The new, up-to-date Easy-On Color Band is the simplest, cheapest and easiest to apply band on the market. Made from the best celluloid and aluminum it will give long service. With a little care it can be taken off and used several times. Price—(2½c each) (25 pair 75c) (60 pair \$1.50) postpaid.

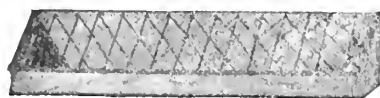
WIRE SHIPPING COOP

This Steel Wire Shipping Coop is made from the ½-inch steel wire electrically welded, has no loose joints, is very light and handy to use. It has a sliding gate at top where birds are put in. Has strong hardwood bottom floor, wired on to frame, and in fact contains just what any poultry dealer would want to ship chickens in. It is almost indestructible, being made so strong, and on account of being so light cost but little freight or express. They last for years. Price, chicken size, \$3.55. Weight 20 lbs. Turkey size, \$4.80. Weight 25 lbs.





Double Chick Feeder



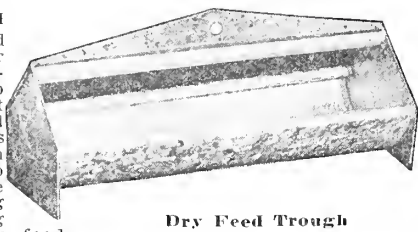
Single Chick Feeder

DUCK TROUGHS

The bottom of the trough being round in shape, makes it superior to all others, as it can be easily cleaned and prevents food from becoming stale in corners. The grate slide is a feature not to be found in any other feed trough. Price 10 in. 40c, weight 2 lbs.; 20 inch 60c, weight 3 lbs., f. o. b. Los Angeles.

DRY FEED TROUGH

This galvanized iron dry mash feeder has no seams or crevices to allow feed to lodge and sour. It is easily washed and kept clean. Fowls can feed on both sides. It has a sharp partition through the center, preventing birds from fouling and getting into the feed.

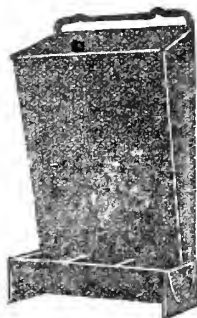


Dry Feed Trough

(18-inch, 2 lbs., 75c) (24-inch, 3 lbs., 85c) f. o. b. Los Angeles.

ROUND BOTTOM DRY FOOD HOPPER

With two apartments. Will feed dry meal on beef scraps and not clog. Price 85c. Wt. 5 lbs. F. O. B. Los Angeles.

Box
Shell and Grit
Round Bottom

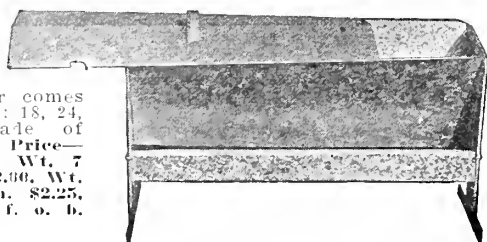
Round Bottom Hopper

Round Bottom Dry Mash Hopper

Is made of heavy galvanized iron 24 inches long and 30 inches high. Has a screen front so the chicks can get the dry mash and not waste. It is the best dry mash feeder on the market. Can be hung on the fence or shed free from dirt and with the covers rain can not get into the feed.

Price, 18-inch, \$2.25, wt. 8 lbs., 24-inch, \$3.00, wt. 10 lbs., f. o. b. Los Angeles.

GREAT WESTERN DRY MASH FEEDER



This feeder comes in three sizes: 18, 24, and 30. Made of heavy iron. Price—18 in. \$1.75, Wt. 7 lbs.; 24 in. \$2.00, Wt. 9 lbs.; 30 in. \$2.25, Wt. 10 lbs., f. o. b. Los Angeles.

Great Western Dry Mash Feeder

Any of the following articles ordered by Parcel Post add postage.

DOUBLE FEEDERS

12 in. 50c, wt. 1 lb.,
18 in. 65c, wt. 1 1/2 lbs.,
24 in. 75c, wt. 2 lbs.,
30 in. 90c, wt. 2 1/2 lbs.

SINGLE FEEDERS

12 in. 30c, wt. 1 lb.,
18 in. 40c, wt. 2 1/2 lbs.,
24 in. 60c, wt. 2 lbs.,
30 in. 80c, wt. 2 1/2 lbs.,
F.O.B. Los Angeles

Petty's Poultry Punch

One of the most convenient punches made. It is small and easy to operate, cutting a clean hole every time. Price, 20c; postpaid 25c.



Easy Poultry Punch

Made of brass, so simple in construction any one can use this punch with ease. Price, 35c, postpaid.

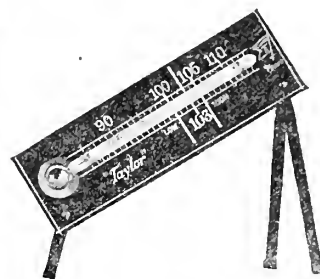


Easy Poultry Punch

INCUBATOR AND BROODER THERMOMETERS



No. 2—85c



No. 3—85c

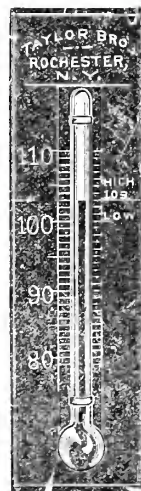


No. 4—85c

Many persons using Incubators and Brooders fail to understand the importance of having a thoroughly tested and reliable thermometer. Many a fine hatch is lost, and many a fine brood of chicks killed by using a poor thermometer. Use great care in purchasing a perfect thermometer. Our thermometers are thoroughly tested and accurate.

Our Brooder Thermometers are in two styles, half round and flat. Made by Tycoos Co. and guaranteed correct. Price of the half round Brooder Thermometer, packed, 75c, postpaid.

No. 1 all glass Incubator Thermometer. Price \$1.25 postpaid.

Flat Brooder
Thermometer
50c postpaid

Tycoos Hygrometer

MOISTURE REQUIREMENTS

The amount of moisture required, during the period of incubation, varies from 65 per cent to 53 per cent. For the convenience of our friends and patrons we give the following table of the percentage of moisture best adapted to each week of incubation:

First week there should be about 65 per cent of moisture present;

Second week there should be about 60 per cent of moisture present;

Third week there should be about 55 per cent of moisture present;

At the time of hatching, about 50 per cent of moisture. Price, \$2.00, postpaid.



No. 1

POULTRY INSTRUMENTS

CAPONIZING SET

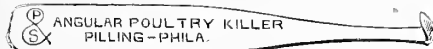
This set is one of the latest design. It is a combination of tools that can be used with one hand and seldom causes the operator to slip and cause the loss of the bird. **Price, complete in case, \$3.50, prepaid.**

SPECIAL CAPONIZING SET

Price, complete in oak case, prepaid, \$4.00.

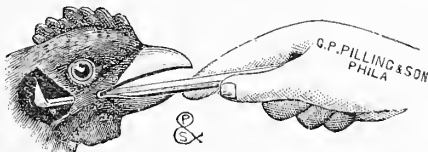


This set contains the latest patented extractor. The operation can be easily done by any beginner, without much loss. Complete instructions with each set.



Pilling Angular Killing Knife

By simply turning the wrist the jugular vein and spinal cord are cut, thereby bleeding the fowl, allowing the feathers to be removed without using water. **50c, postpaid.**



Showing Angular Killing Knife

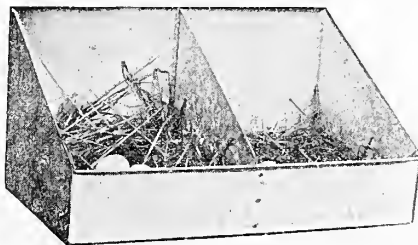
Pilling French Coultury Killing Knife

Every poultry raiser should have one of our Killing Knives. They are made of a finely tempered instrument steel with nickeled handle; will last a lifetime. Send postpaid on receipt of **50 cents**. Don't wait! send for one now! Sent securely packed by mail on receipt of price.

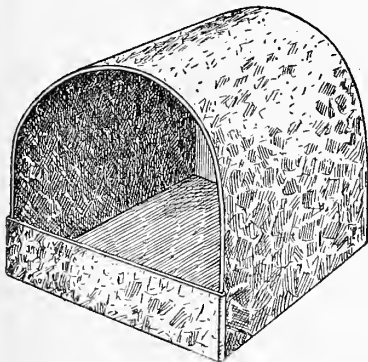


METAL NEST

Single \$1.50; 2 compartment, \$2.00
Wt. 7 lbs.; 3 compartment \$2.50.
Wt. 9 lbs. F. O. B. Los Angeles.



Thoroughbred Rhode Island Red Eggs, \$1.50 per Setting.



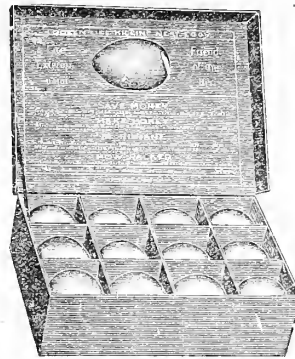
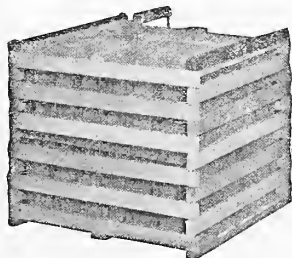
COVERED TOP METAL NEST

Made single only. Best of iron. **\$2.00 each.** Wt. 5 lbs., f. o. b. Los Angeles. Add postage, etc.

Any of the following articles ordered by Parcel Post add postage.

HUMPTY-DUMPTY EGG CARRIER

One of the handiest egg carriers on the market. This carrier will hold twelve (12) dozen eggs. Can be folded flat for shipment, and is made of strong but light wooden slats fastened with strong steel wires. Very handy and something every poultryman should have. **Price, 90c each, f. o. b. Los Angeles.** Weight 6 lbs.



A & M LICE KILLING NEST EGGS

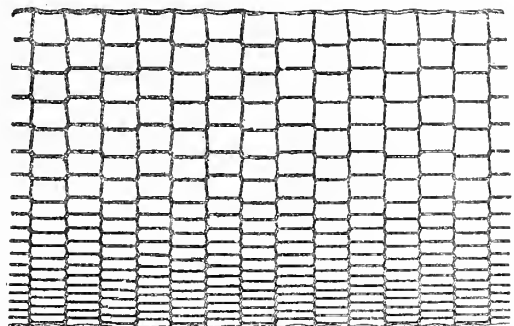
Our Lice Killing Nest Eggs are almost an exact imitation of the real chicken eggs, and contain a powerful disinfectant which is guaranteed to expel lice and vermin. Put up in boxes of one dozen each, at **75c. Weight 2 lbs.**

CHINA NEST EGGS

We handle only the best grade of glass eggs, strong and durable. **2 for 5c; 25c dozen. Postpaid, 35c.**

Warner Junior Poultry Fencing

Warner Junior Poultry Fence is made of No. 18 galvanized wire with No. 14 wire top and bottom, stay wires placed $4\frac{1}{2}$ inches apart. At the bottom of the fence mesh is $1\frac{1}{2}$ inch and gradually widens as the top is reached.



THE WARNER JUNIOR POULTRY FENCE

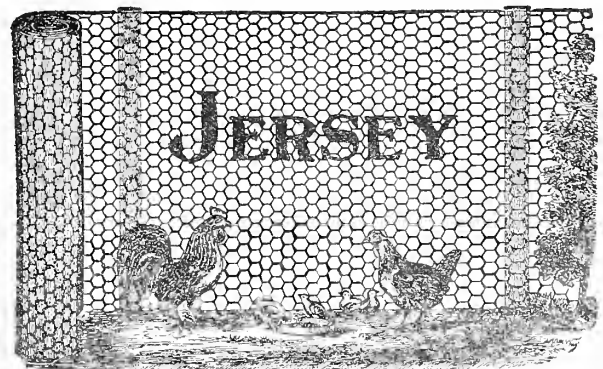
Put up in 10 rod rolls.

3 ft. wide, per roll.....	\$5.25
4 ft. wide, per roll.....	5.85
5 ft. wide, per roll.....	6.85
6 ft. wide, per roll.....	7.70

Subject to market fluctuations.

Jersey Poultry Fencing

This wire is made of the full 20 gauge hand drawn steel wire galvanized after weaving. Each roll contains 150 running feet.

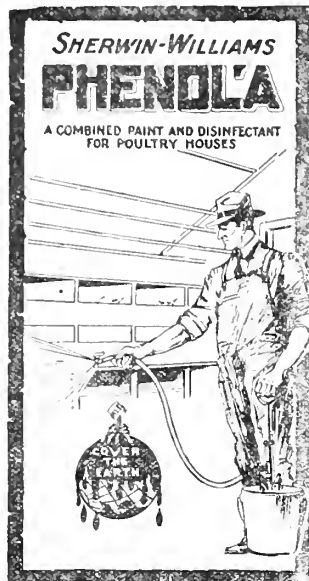


On account of great changes in Galvanized Wire we are unable to quote prices. But will be pleased to quote you prices on all sizes on application.

We carry the following sizes:

1 ft. 2 inch mesh.	1 ft. 1 inch mesh.
$1\frac{1}{2}$ ft. 2 inch mesh.	$1\frac{1}{2}$ ft. 1 inch mesh.
2 ft. 2 inch mesh.	2 ft. 1 inch mesh.
3 ft. 2 inch mesh.	3 ft. 1 inch mesh.
4 ft. 2 inch mesh.	4 ft. 1 inch mesh.
5 ft. 2 inch mesh.	5 ft. 1 inch mesh.
6 ft. 2 inch mesh.	6 ft. 1 inch mesh.

POULTRY REMEDIES AND FEEDS



Phenola is a disinfectant white paint, made in powdered form. It cannot be compared with either whitewash or kalsomine. It will outlast them as a white paint and at the same time disinfect the surface to which it is applied.

Phenola does not peel off or crack. It is especially prepared for use in poultry houses, stables, cow barns, out houses, and factories. It is also adapted for use in dairies and creameries, as it will not taint butter or milk.

Direction for using: Either hot or cold water may be used. For general work we recommend one to two pounds of Phenola to each gallon of water. Thoroughly mix and apply with brush or spray.

Price—

1-lb. packages... \$.30 each
5-lb. packages... 1.25 each
10-lb. packages... 2.25 each
25-lb. packages... 5.00 each
All above f. o. b. Los Angeles.

CONDIMENTS

Mustard—Ground	Per lb.	35c
Ginger—Ground	Per lb.	35c
Pepper—Chili, ground	Per lb.	20c
Pepper—Seed for poultry	Per lb.	20c
Salt—Rock	Per lb.	5c
Salt—Leslie's Loop	Per Brick	25c
Salt—Leslie's Brick—Plain (8 lbs.)	Per Brick	50c

PACKAGE GOODS

Blood Meal	35c pkg.
Charcoal	15c pkg.
Hydrated Lime	15c pkg.

Pratt Food Co. Stock and Poultry Remedies

	Retail each
Animal Regulator	\$.30
Animal Regulator	.60
Animal Regulator	1.20
Animal Regulator	1.75
Animal Regulator	3.75
Animal Regulator	6.00
Animal Regulator	12.00
Bronchitis Remedy	.30
Bronchitis Remedy	.60
Bag Ointment	.35
Bag Ointment	.70
Condition Tablets	.30
Condition Tablets	.60
Chicken Cholera Remedy	.30
Chicken Cholera Remedy	.60
Cow Remedy	.60
Cow Remedy	1.20
Cow Remedy, Tins, 12 lbs.	2.75
Cow Remedy, Tins, 25 lbs.	5.00
Condition Powder	.30
Condition Powder	.60
Condition Powder, Pails, 12 lbs.	2.00
Condition Powder, Pails, 25 lbs.	3.50
Dip and Disinfectant, 1 qt.	.50
Dip and Disinfectant, 2 qt.	.90
Dip and Disinfectant, 1 gal.	1.50
Distemper and Pink Eye Remedy	.60
Fly Chaser	.50
Fly Chaser	.90
Fly Chaser	1.50
Gape Remedy	.30
Gape Remedy	.60
Head Lice Ointment	.30
Heave Cough Cold Remedy	.60
Heave Cough Cold Remedy	1.20
Healing Powder	.30
Healing Ointment and Gall Remedy	.30
Healing Ointment and Gall Remedy	.60
Hog Cholera Specific	.60
Hog Cholera Specific, Pails, 12 lbs.	2.50
Hog Cholera Specific, Pails, 25 lbs.	4.00
Lice Killer	.30
Lice Killer	.60
Lice Killer (Liquid)	.50
Lice Killer (Liquid)	.90
Lice Killer (Liquid)	1.50

Liniment	.30
Liniment	.60
Liniment	1.20
Poultry Regulator	.30
Poultry Regulator	.60
Poultry Regulator	1.20
Poultry Regulator, Pails, 12 lbs.	1.75
Poultry Regulator, Pails, 25 lbs.	3.00
Poultry Regulator, Sacks, 12 lbs.	1.25
Poultry Regulator, Sacks, 25 lbs.	2.50
Poultry Regulator, Sacks, 50 lbs.	5.00
Poultry Regulator, Sacks, 100 lbs.	10.00
Poultry Disinfectant, 5 gallons.	.50
Poultry Disinfectant, 10 gallons.	.90
Poultry Disinfectant, 50 gallons.	1.50
Peerless Hoof Ointment	.25
Peerless Hoof Ointment	.60
Roup Remedy	.30
Roup Remedy	.60
Roup Remedy	1.20
Sorehead Chicken-Pox Remedy	.30
Sorehead Chicken-Pox Remedy	.60
Scaly Leg Remedy	.30
Scaly Leg Remedy	.60
Spavin Remedy (Liquid)	.50
Spavin Remedy (Liquid)	1.00
Spavin Remedy (Paste)	.50
Veterinary Colic Remedy	.50
Veterinary Colic Remedy	1.00
White Diarrhoea Remedy	.30
White Diarrhoea Remedy	.60
Worm Powder	.60
Worm Powder	1.20

DRS. HESS & CLARK REMEDIES

	Retail each
Cough and Distemper	\$.50
Colic Remedy	.50
Colic Remedy	1.00
Dip and Disinfectant	.50
Dip and Disinfectant	.75
Dip and Disinfectant	1.25
Dip and Disinfectant	5.00
Dip and Disinfectant	9.50
Dip and Disinfectant	.35
Healing Powder	.25
Healing Powder	.50
Heave Powder	.50
Instant Louse Killer	.25
Instant Louse Killer	.60
Poultry Pan-a-acea	.25
Poultry Pan-a-acea	.50
Poultry Pan-a-acea	1.00
Poultry Pan-a-acea, Pails, 2 5s.	3.00
Roup Remedy	.25
Roup Remedy	.50
Stock Tonic	.25
Stock Tonic	.65
Stock Tonic	1.00
Stock Tonic, Sack, 25 lbs.	2.25
Stock Tonic, Pail, 25 lbs.	2.25
Stock Tonic, Sack, 50 lbs.	3.70
Stock Tonic, Sack, 100 lbs.	7.00
Worm Powder	.50
Worm Powder	1.00
Worm Powder	2.50

Barnes' Rabbit Remedies

We are pleased to offer our patrons this year the Barnes Rabbit Remedies. After careful research and investigation, we find these remedies to be most reliable and efficient. They are made from California herbs and are formulated by Dr. Barnes after careful clinical research. The raiser of rabbits should grow Chicory, for it is not alone a very nutritious food but prevents many ailments. The prices of the Barnes Remedies are as follows:

Each	Each
Barnes Anti-Canker . . . \$.50	Barnes Corrective . . . 1.00
Barnes Anti-Canker . . . 1.00	Barnes Rabbit Tonic50
Barnes Anti-Slobber50	Barnes Rabbit Tonic . . . 1.00
Barnes Anti-Slobber . . . 1.00	Barnes Cold Specific50
Barnes Anti-Diarrhoea . . .50	Barnes Cold Specific . . . 1.00
Barnes Anti-Diarrhoea . . .1.00	Barnes Vent Ointment . . .50
Barnes Corrective50	

INFORMATION

This catalog describes approximately two thousand items segregated as follows:

- 700 varieties and types of vegetables
- 100 Different Field Crops
- 600 Types of Flowers
- 300 Miscellaneous Farm Requisites
- 400 Poultry Requisites
- 1000 Questions answered

Much space throughout this book is given to general information on agriculture which is reliable.

Although this book is reviewed twelve times before going to press, some errors will appear.

READ

The items advertised on this page came to our attention too late to be properly classified. We considered them too important to be omitted. We have tried each one and give our personal indorsement of their merits.

The Egyptian Brand of Insect Powder is the best all round insecticide we know of. The Fleming Egg Preserver has been tried by us and has proven all that is claimed for it. It is more convenient and a better preserver than water glass.

Devonshire's Earth Salts has brought so many favorable testimonials that we sincerely indorse it.

Insect and Disinfecting Powder

EGYPTIAN BRAND

Guaranteed Harmless

Has no Equal for Exterminating Ants, Fleas, Moths, Bedbugs and Roaches

POULTRYMAN'S FRIEND

For Disinfecting Chicken Houses and Exterminating Chicken Lice and Mites.

FOR PLANTS AND VEGETABLES

Sprinkle Powder on Plants—You will not be troubled with Slugs, Snails or Parasites of any kind.

INSTANTANEOUS DISINFECTANT

For Sinks, Bathrooms, Cesspools, Etc.

FUMIGATING

Burn Powder—A Tablespoonful being usually sufficient.

CONTAINS CREOSOTE, DISTILLATE, CRUDE OIL, SULPHUR, INERT MATERIAL

Manufactured by

MARSLAND & YOUNG

Directions—For Bed Bugs: Blow the powder around the beds and slats. It kills the Bugs, Eggs and Germs.

For Chicken Lice and Mites: Dust it around nests, roosts and on the chickens.

For Roup, Cholera and Worms: One tablespoonful to one gallon of water or in the feed to 12 chickens.

For Sorehead and Scaley Legs: Mix with lard and apply.

For Roaches, Ants, Fleas and Moths: Use powder dry.

Per 1-lb. pkg. 35c prepaid.

ALASKA WHEAT

The Wheat for Enormous Yield The Wheat for Poultrymen

Single heads have contained more than 150 grains of a large size. On the Spangler Brothers' ranch at E. Bakersfield one head of 153 grains produced seven pounds of seed. Seven pounds of seed produced 1180 lbs. which matured in the hot weather of June, which shriveled the grain and decreased the yield fully one-fourth.

NEVER HAS BEEN KNOWN TO SMUT OR RUST

Bulletin No. 357 of the Department of Agriculture, Washington, D. C., advises against growing this Wheat to be milled for flour, stating the quality of the flour is inferior and the color is a creamy white, which is objectionable.

The above statement as to yield is correct.

We have on exhibition at our store one stool of 51 heads.

This is just the wheat the poultryman wants to grow. Twenty pounds is sufficient to plant an acre. (Per lb. 50c) (10 lbs. \$4.00) prepaid; (100 lbs. \$30.00) f. o. b. here.

"EGGS"

ATTENTION! Farmers, Poultry Men, Egg Producers and Consumers. A Great Discovery, Momentous in Economic Possibilities

THE FLEMING EGG PRESERVER

Patented in United States and Canada

Makes 15 cent Eggs worth 50 cents—Costs 2 cents dozen. Preserves Spring Eggs for Winter Use Fresh and Sweet as day they were laid, without Cold Storage or Refrigeration.

Discounts All Other Processes Ten to One. An Absolutely Reliable and Unqualified Success

2 oz. tins sufficient to preserve 50 doz. eggs, 85c postpaid.
4 oz. tins sufficient to preserve 100 doz. eggs, \$1.35 postpaid.

Devonshire's Earth Salts

Especially for Poultry, Rabbits, Cattle and Horses

Major Devonshire pointed out in 1905 that it would be necessary to artificially manufacture and supply the Earth Salts to domestic stock, poultry and dogs kept in confinement or on limited range, and the formula, on which Devonshire's Earth Salts are based, is the work of a leading American Chemist.

The consistently favorable reports, during the past eight years, of Agricultural Chemists, Veterinarians and Stock and Poultry Experts, in many parts of the world, as to the unique value of these Earth Salts, have established Devonshire's Earth Salts as a great discovery in Agricultural Science.

Some Diseases Caused by a Shortage of Earth Salts. Available to Stock and Poultry.

(1) Horses, Cattle, Pigs, Sheep and Dogs. Debility, abortion, sterility, mange, insufficient or worthless milk to suckle the offspring, milk fever, etc.

(2) Poultry. Poor egg yield, dead-in-shell chicks, weakling chicks, infertile eggs, sterility in male birds, poor feathering, leg weakness, debility, leading to the attacks of lice, roup, diphtheria, catarrh, diarrhoea and other diseases, which are always preceded by a debilitated condition, due to a shortage of Earth Salts, if the management is in other respects rational.

Summary. If the germicide (or killers of disease germs which settle in the blood) are healthy, disease is impossible. Earth Salts, as combined in Devonshire's Earth Salts, enable these germicides to functionate efficiently, and are therefore the elixir vitae—the most vitally important factor in the feeding of stock and poultry in confinement.

One tablespoonful per day for twenty fowls is about the right proportion. Instructions for feeding are printed on every package. We also have pamphlets with full information for the asking.

Dogs. A convenient way to feed a dog is to put ½ teaspoonful of the Earth Salts daily in the feed. Where puppies at weaning time feed out of one dish, a ½ teaspoonful in the food in the dish will be about right. The Earth Salts are quite harmless, but if too much is given, the dogs may refuse the food.

Rabbits. Cures Slobbers, Snuffles, Mange, Ear Canker, all digestive disturbances, refusal to eat, Abscesses and difficulty in moulting.

Devonshire's Earth Salts for stick and poultry are put up in packages of three sizes.

Devonshire's Earth Salts increase the milk yield of cows. Devonshire's Earth Salts are assimilated by all living things in the same way as the natural salts in the foods.

Devonshire's Earth Salts. Tuberculosis is due to a shortage of the earth salts in the body.

Price, 1-lb. packages, postpaid 60c.

Price, 2½-lb. packages, \$1.15, postpaid.

Price, 10-lb. packages, \$3.00, f. o. b. Los Angeles.

Price, 25-lb. sacks, \$7.00, 50-lb. sacks \$13.50, 100-lb. sacks \$26.00, f. o. b. Los Angeles.

Rheumatism is due to an excess of acids in the body. Devonshire's Earth Salts alone enable nature to absorb these acids and invariably cure this disease.

Dyspepsia and all forms of Nervous Disease—The Earth Salts alone create the gastric juice and nourish the nervous system.

WHY DEVONSHIRE EARTH SALTS FOR HUMAN USE? Because They Supply the Shortage in Your Food

Devonshire's Earth Salts for human use are the only known means of supplying this shortage. They prevent and cure disease.

Liver and Kidney Troubles, etc., are also due to a lack of the earth salts.

Children. The Rising Generation. Invaluable to promote the healthy growth of children after weaning and during the teething period.

Devonshire Earth Salts are a food and not a medicine. Are absolutely harmless, being a copy of the natural salts found in all foods. Sold in packages for human use. Price in powder form, postpaid 85c; in boxes with 120 capsules, postpaid \$1.10.

We have handled Devonshire's Earth Salts for the past four years, both for Stock and Human food, and it not only has given general satisfaction, but we have many testimonials of remarkable cures to human beings resulting from its use. Therefore we do not hesitate to recommend it.

AGGELER & MUSSER SEED CO.

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(OVER)

NAME OF ARTICLE WANTED

Brought forward

POSTAGE

Garden Seeds priced by the packet, ounce, one-fourth pound and pound are postage paid. Peas, Beans, Onion Sets, Corn, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

DOMESTIC PARCEL POST RATES

On Seeds, Plants, Bulbs, Roots, Books, Tools, etc.
within the U. S. and Possessions

	First pound or fraction	Each additional pound or fraction
First Zone, Los Angeles or 50 miles thereof	5c	1c
Second Zone, within 50 to 150 miles	5c	1c
Third Zone, within 150 to 300 miles	6c	2c
Fourth Zone, within 300 to 600 miles	7c	4c
Fifth Zone, within 600 to 1000 miles	8c	6c
Sixth Zone, within 1000 to 1400 miles	9c	8c
Seventh Zone, within 1400 to 1800 miles	11c	10c
Eighth Zone, all over 1800 miles	12c	12c

Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.

The AGGELER & MUSSER SEED CO. Inc.
620 South Spring Street, Los Angeles, Cal., U.S.A.

Please forward the following **ORDER** for amount enclosed (write your name and address distinctly)

Name

Street P. O. Box

Post Office R. F. D. No.....

County _____ State _____

Forward Goods by

State whether by **Mail**, **Express** (and company),
Freight (and route), **Steamer** (and line).

Name of Station or Exp. Office.....

Amount Enclosed

P. O. Money Order

Exp. Money Order:.....

Draft

Cash

Stamps,

Total

Date _____, 191_____

NOTICE—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds or bulbs we send out and we will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are to be returned at once. Aggeler & Musser Seed Co. (Inc.).

[illegible]

(OVER)

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Garden Seeds priced by the packet, ounce, one-fourth pound and pound are postage paid. Peas, Beans, Onion Sets, Corn, Grass and Field Seeds and Sundry Articles are not postpaid. In ordering one pound lot, add ten cents per pound for postage and packing, and on larger quantities apply parcel post charges.

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Sixth Zone, within 1000 to 1400 miles	9c	8c
Seventh Zone, within 1400 to 1800 miles	11c	10c
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Please do not ask questions on this Order Sheet, but kindly write them and all communications requiring an answer on a separate sheet of paper and inclose with your order. Be sure that your Full Name and Address are on Both Letter and Order.

This space is for remarks about your order.

The following is a calendar for the general planting of vegetables, but, owing to the various soils and climatic conditions, this calendar cannot be applied to every locality, even in Southern California, for which this calendar is intended

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER	NOVEMBER	DECEMBER
Asparagus Beans Beets Brussels Cabbages Carrots Cauliflower Celery Chervil Chicory Corn Salad Cress Egg Plant Horse Radish Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Winter Tomato Turnip	Asparagus Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chervil Chicory Corn Cress Egg Plant Horse Radish Kale Kohl Rabi Lettuce Mustard Onions Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomato Turnips	Artichoke Asparagus Beets Beans Cabbage Carrots Cauliflower Celery Chervil Chicory Corn, Sweet Cucumbers Egg Plant Horse Kale Kohl Rabi Lettuce Melons, Musk Okra Onions Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomato	Artichoke, Seed Asparagus Beets Beans Cabbage Carrots Cauliflower Celery Chives Chicory Corn, Sweet Cucumbers Egg Plant Horse Kale Kohl Rabi Lettuce Melons, Musk Okra Onions Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Squash Tomatoes	Artichoke, Seed Asparagus, Beets Beans Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cucumbers Egg Plant Horse Kale Kohl Rabi Lettuce Melons, Musk Okra Onions Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Squash Tomatoes	Artichoke, Seed Beets Cabbage Carrots Cauliflower Celery Chicory Corn, Sweet Cucumbers Egg Plant Horse Kale Kohl Rabi Lettuce Melons Okra Onion Sets Parsley Peas Peppers Potatoes Pumpkin Radish Spinach Summer Squash Tomatoes	Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chicory Kale Kohl Rabi Lettuce Melons Okra Onion Parsley Peas Peppers Potatoes Pumpkin Radish Spinach Summer Squash Tomatoes	Artichoke, Seed Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chervil Chicory Cress Egg Plant Horse Kale Cucumber Egg Plant Endive Garlic Kohl Rabi Lettuce Mustard Onion Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomatoes Turnip	Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chervil Chicory Cress Egg Plant Horse Kale Kohl Rabi Lettuce Melons Okra Onion Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomatoes Turnips	Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chicory Chives Chicory Cress Egg Plant Horse Kale Kohl Rabi Lettuce Melons Okra Onion Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomatoes Turnip	Artichoke, Plants Asparagus Beets Beans Brussels Cabbages Carrots Cauliflower Celery Chicory Chives Chicory Cress Egg Plant Horse Kale Kohl Rabi Lettuce Melons Okra Onion Parsley Peas Peppers Potatoes Rhubarb Salsify Spinach Summer Tomatoes Turnip	

*Plant in frostless sections only

†Plant seed in hot bed

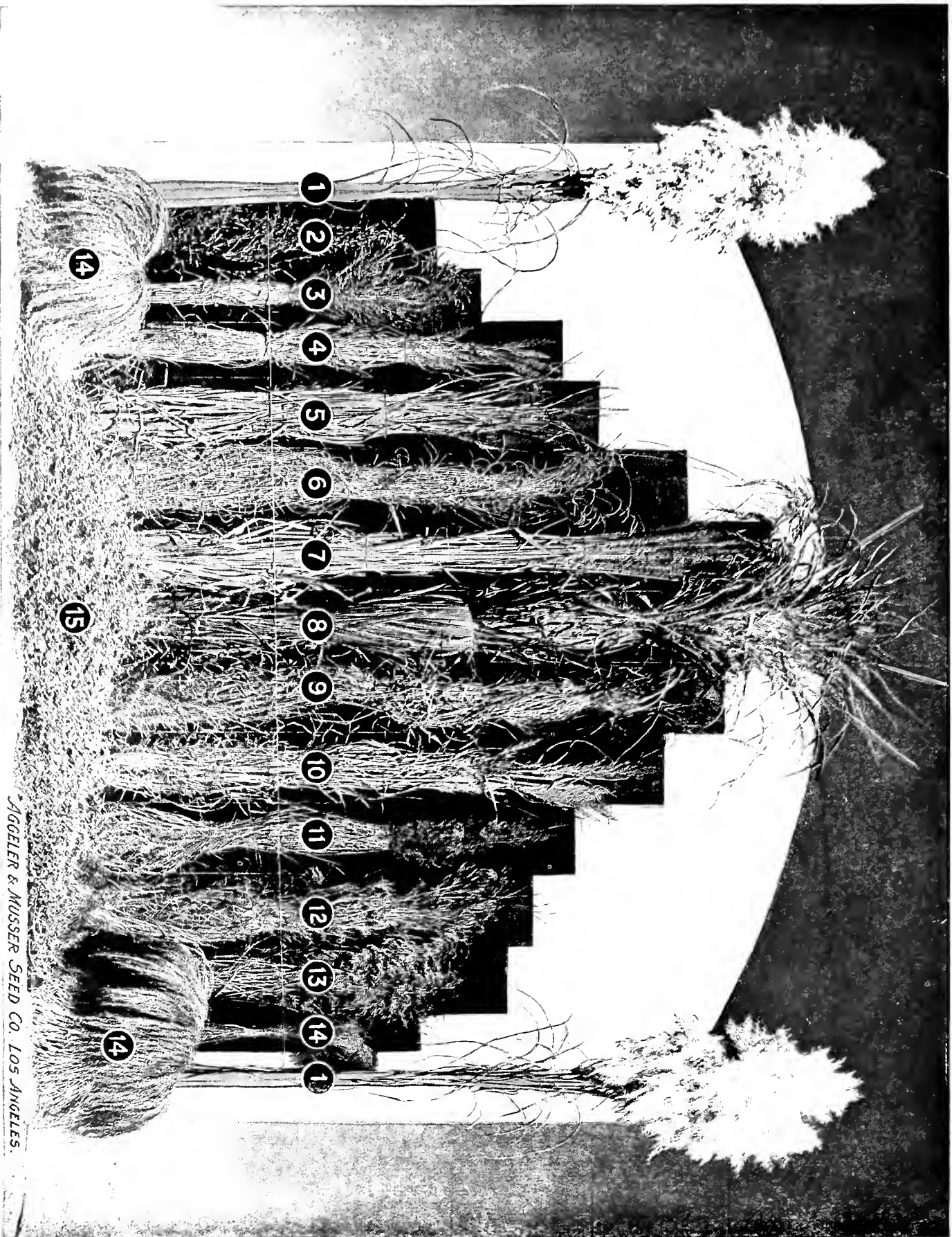
‡Plant both seed and plants

*Plant in low, heavy land.

†In the Colorado Desert.

Calendar for Planting Flowers

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
Sow Seed Antirrhinum Centaurea Calliopsis Celosia Chrysanthemum Salvia Sweet Peas Transplant Carnation Petunia Pansy Stocks Shasta Daisy Verbena Bulbs Anemones Cannas Callas Dahlia Easter Lilies Gladiolus Narcissus Ranunculus	Sow Seed Antirrhinum Asters Calliopsis Celosia Chrysanthemum Salvia Sweet Peas Transplant Carnation Petunia Pansy Stocks Shasta Daisy Verbena Bulbs Callas Cannas Dahlia Gladiolus Tuberose	Sow Seed Asters Balsam Centaurea Dianthus Marigold Nasturtium Snap-Dragon Sweet Peas Zinnia Transplant Asters Celosia Centaurea Calliopsis Salvia Shasta Daisy Verbena Bulbs Callas Cannas Dahlia Gladiolus Tuberose	Sow Seed Ageratum Balsam Cosmos Centaurea Coreopsis Candytuft Celosia Daisies Nasturtium Poppies Snap-Dragon Zinnia Transplant Asters Antirrhinum Centaurea Calliopsis Chrysanthemum Celosia Salvia Bulbs Amaryllis Cannas Dahlia Gladiolus Tuberose	Sow Seed Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Nasturtium Phlox Petunia Poppies Salpiglossis Scabiosa Transplant Asters Antirrhinum Balsam Centaurea Dianthus Marigold Snap-Dragon Zinnia Bulbs Amaryllis Cannas Dahlia Gladiolus Tuberose	Sow Seed Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Daisies Forget-me-not Gillardia Marigold Phlox Petunia Poppies Salpiglossis Transplant Ageratum Balsam Carnation Cosmos Centaurea Coreopsis Celosia Daisies Hollyhock Snap-Dragon Violets Zinnia Bulbs Cannas Gladiolus
JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Sow Seed Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks Transplant Carnation Cosmos Coreopsis Candytuft Centaurea Daisies Digitalis Forget-me-not Gillardia Marigold Phlox Petunia Salpiglossis Scabiosa Violets	Sow Seed Columbine Calendula Canterbury Bells Cosmos Lobelia Pansies Pinks Primula Petunia Verbena Transplant Carnation Cosmos Coreopsis Candytuft Cineraria Centaurea Digitalis Daisies Gillardia Marigold Phlox Petunia Salpiglossis Scabiosa Violets	Sow Seed Carnation Columbine Calendula Candytuft Forget-me-not Pansies Stocks Sweet Peas, Xmas. Transplant Antirrhinum Canterbury Bells Centaurea Cosmos Lobelia Pansies Stocks Violets Bulbs Callas Freesias Iris Climbing Vines Australian Pea Vine Cobea Scandens Kudzu Vine Moon Flower Morning Glory Passion Flower Smilax Virginia Creeper	Sow Seed Coreopsis Centaurea Cineraria Forget-me-not Larkspur Pansies Stocks Sweet Peas Transplant Cineraria Columbine Calendula Candytuft Lobelia Pansy Pinks Primula Petunia Verbena Bulbs Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulip	Sow Seed Carnation Centaurea Larkspur Pansies Sweet Peas Stocks Transplant Carnation Columbine Calendula Candytuft Forget-me-not Pansies Stocks Bulbs Anemones Callas Easter Lilies Freesias Hyacinths Iris Narcissus Ranunculus Tulips Mignonette may be sown all the year around.	Sow Seed Sweet Peas Transplant Coreopsis Centaurea Cineraria Larkspur Pansies Stocks Bulbs Anemones Callas Cannas Easter Lilies Freesias Hyacinth Iris Narcissus Ranunculus Tulip Border Plants Alyssum Ageratum Begonias Coleus Geranium Shasta Daisy Verbena



MOORE & MESSER SEED CO. LOS ANGELES.